THE INLAND ARCHITECT AND NEWS RECORD

VOL. L CONTENTS FOR DECEMBER, 1907 No. 6

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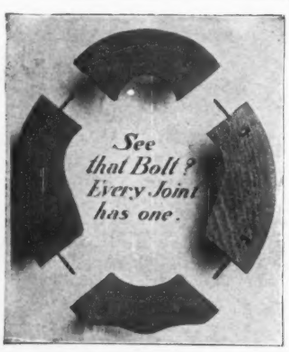

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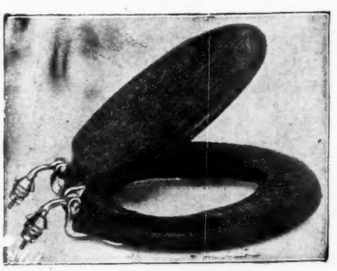

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Plans of the Park Commission of Washington Menaced.

The proposed location of the Grant statue in the Botanic Gardens in Washington has been the occasion of fierce attacks by all the interests opposed to the plans of the Park Commission. As is known, this park commission, composed of Daniel H. Burnham, Charles F. McKim, and Samuel Parsons, Jr., gave exhaustive consideration to the problem of the development of Washington, and visited the capitals of Europe to study the best examples of capital cities. The Park Commission plans are based largely upon those of L' Enfant, prepared under the supervision of George Washington. They have had the hearty approval of the art bodies of America and Europe. While the commission has no legal standing and can act only in an advisory capacity, much good has been already accomplished through its recommendations. Among the great buildings located under its direction are: The Union Station, the Agricultural Building, the National Museum, the buildings for the Senate and House, the Municipal Building, and those for the George Washington University and the Daughters of the Revolution. These results are a substantial tribute to the Park Commission plans. It is to be devoutly hoped that they will continue to be followed to the consummation of making Washington one of the beauty spots of the world. The present opposition is from powerful local influences, such as one or two newspapers, and the property owners along Pennsylvania and other avenues. It is another case where the commercial and the are interests are in conflict. The issue however should not be regarded as local. Washington, the capital of the nation, belongs to the people of the whole country, and should be developed to their utmost pride and enjoyment. The plans for this end could be in no more competent hands than those of the present commission; a highly gratifying start has been made, and it is to the interest of the people at large, and to the advancement of the Fine Arts that no obstacles be allowed to prevent the consummation of the plans of the Park Commission. The influence of the architects has been most potent in the establishment of this commission, and in the movement for municipal improvement throughout the country. They can do much to prevent the failure of the work so well begun by urging their members in Congress to support the Park Commission plans.

The Great Pittsburg Architectural Exhibition.

The greatest event of the year in architectural circles with the exception of the year's Conventions of the American Institute of Architects, was the recent exhibition of the Pittsburg Architectural Club. The exhibition contained an unusually large and strong showing of the work of American Architects and of the schools of architecture. The several galleries at the disposal of the club allowed classification of the exhibits unusually favorable for examination and comparison. In the ecclesiastical group were drawings of notable churches recently finished or in process of construction, in America and Europe. The showing was no discredit to the architects of America. Two galleries were devoted chiefly to the representation of the "progress before precedent" movement in architecture in the United States. Saving a model of a column cap, no work was shown of the pioneer in this movement, Louis H. Sullivan, but an exceedingly interesting exhibit was made by his disciple, Frank Lloyd Wright, and by such followers as George W. Maher, and Geo. R. and Arthur R. Dean, of Chicago. The progress made in the so-called secession movement in Europe was illustrated by a hundred or more exhibits from Germany, Austria and England. In the foreign section, also, were noteworthy exhibits of medal of honor designs, and of beautifully rendered sketches from France.

Large Projects at the Pittsburg Exhibition.

Perhaps the most important department of the exhibition was that showing the plans representative of the great movement in the United States for the beautification of cities. Prominent in this section were the remarkable series of drawings of the plans of the Senate Park Commission for the development of Washington, D. C.; the Burnham plans for the improvement of Manila, and of San Francisco; and group plans for the beautifying of Cleveland and of Pittsburg. With all these plans the architects have been closely identified, and with them rests much of the responsibility for their ultimate success. The advanced work being done in the architectural schools and ateliers of the East was shown by extensive exhibits which included examples from practically all of the eastern schools of architecture. The western schools were without representation, except for the exhibit of the Washington University at St. Louis. Especially to be regretted was the absence of an exhibit by the University of Illinois that maintains one of the oldest and most progressive departments for architectural and engineering instruction in the United States. Brief mention only has been made of the more striking features of this unequalled architectural exhibition. As a display of architectural draftsmanship alone, the exhibition will be long remembered. The exhibition was an ambitious undertaking, and its pronounced success was due to the enthusiasm and hard work of a dozen or so of the club members under the leadership of President Richard Kiehnel. These with the catalogue committee have won laurels for the Pittsburg Architectural Club.

THE CORROSION OF STEEL*

IRON is unique among the elements, not only on account of the ease with which it dissolves or combines with nearly all other elements, but also on account of the changes in structure and physical character which are produced by the presence of almost infinitesimal quantities of impurities. A variation of a few tenths of one per cent in the amount and condition of the carbon content may produce such a change in the physical properties of the metal as to entirely alter its fitness for the various purposes to which it is put. A variation of a few hundredths of one per cent of phosporous in the specifications for certain useful forms of steel has been and still is a matter of controversy between interests representing hundreds of millions of dollars of capital and involving the questions of the safeguarding of the lives and property of the public. Sulphur, silicon, and manganese are among the other well known elements whose presence, absence, or condition in extremely small amounts produce important differences in the character of steel. Absolutely pure iron has but a limited use in the industries of man, and as a rule the properties which are sought are produced by the presence of other elements.

This point is emphasized in order to call your attention to the fact that, chemically speaking, structural iron or steel is not a standard substance, but varies in composition and in character.

I have frequently called attention to the fact that resistance to corrosion was one of the most variable of the many characteristics of steel. That is to say, not only do the various kinds of merchantable iron and steel differ from each other within wide limits in their resistance to corrosive influence, but specimens from the same mill or furnace will frequently show a great difference in this respect. There are few subjects at the present time more important to the engineer and the architect than the protection of structural steel from rapid, unsightly and dangerous corrosion. I wish to point out that there are two separate and distinct lines along which we may hope to make progress.

The first of these has to do with the understanding of the causes which promote corrosion and their elimination in the manufacture of the metal, and the second is the study of paint-films or waterprof coatings which shall really protect even the most inferior metals for indefinite periods. It is only the first phase of the subject that I shall consider tonight.

The tendency to oxidation is a characteristic inherent in iron and an absolutely unrustable iron or steel will probably be impossible of accomplishment, even in the distant future. If, however, all the steel made resisted corrosion as well as the best of it, there would be no problem, and this paper would not have been written.

I shall not take your time this evening to review the older theories which were held to account for the rusting of iron, but will call your attention to the electrochemical or electrolytic explanation, which is now coming to be gen-

*Paper read at the A. I. A. Chicago Convention, November 19, 1907, by Allerton S. Cushman, Assistant Director, Office of Public Roads, United States Department of Agriculture.

erally accepted. According to modern chemical theory, all reactions which take place in water solution are attended by certain readjustments of the electrical states of reacting particles which are called ions. You are undoubtedly aware that under the atomic theory molecules of compound substances are made up of atoms which are held together by a force or forces which represent large amounts of energy. Now, some substances, when they are dissolved in water, will conduct electricity, while others will not. The first class of substances which are generally inorganic acids, alkalies, and salts, we call electrolytes, while those organic bodies, such as sugar, which do not conduct electricity in solution, are non-electrolytes.

Arrhenius, a Swedish physicist, in 1887 announced the theory of electrolytic dissociation, the evidence for which can not be discussed here, but it can be said that the theory has been borne out by numerous researches, and is at the present time almost universally accepted. This theory tells us that the molecules of electrolytes, as they pass into solution in water, dissociate into ions, which are simply atoms carrying, in spite of the smallness of their mass, very heavy charges of electricity. In order that no energy may be lost or gained, it follows that the dissociation must produce both positive and negative ions, which are equivalent and opposite. A rough analogy of what has taken place through dissociation is furnished by a coiled steel spring. If we put such a spring in tension and hold it thus, without addition or subtraction of material, we have impressed potential energy upon it, which will be returned in equivalent amount when by any means the tension is relieved. Indeed, we might consider one end of the spring as positive to the other end, and that in relieving the tension the energy reappeared by the neutralization of the positive and negative potentials.

To illustrate further what is meant by the theory of solutions, let us consider the system common salt and pure water. Common salt is composed of an atom of sodium combined with an atom of chlorine, and the molecule is represented by the simple chemical formula Na C_1. When sodium chloride is brought together with water it tends to go into solution, the molecules mingling with the molecules of the water, owing to a force known as solution pressure. As an increasing number of molecules appear in solution, however, a back pressure is exerted which to a constantly increasing extent resists the entrance of more molecules. This reverse action is known as osmotic pressure and it is perfectly clear that if an excess of salt is present the end of the action will come about for any definite temperature, just as soon as the osmotic pressure and the solution pressure are equal. But in addition to this the very important action takes place which has been just referred to. In passing into solution the salt dissociates into its constituent ions, which simply means that the solution forces tear apart the associated atoms and the energy which held them together appears in a potential form as equal and opposite charges of static electricity on the ions. So that the solution of salt in water is represented by the equation: $NaCl \longrightarrow \overset{+}{Na} + \overset{-}{Cl}$, in which $\overset{+}{Na}$ and $\overset{-}{Cl}$ represent the constituent ions. Osmotic pressure, however, acts against the dissociation pressure just as it does against the solution pressure, so that in concentrated solutions we have a reverse action also taking place represented by the equation: $\overset{+}{Na} + \overset{-}{Cl} \longrightarrow NaCl$.

Chemists therefore say that the state of equilibrium for the system we are considering can be expressed by the reversible reaction: $NaCl \rightleftharpoons \overset{+}{Na} + \overset{-}{Cl}$.

Now, bearing these simple details of the modern theory of solution in mind we may return to the consideration of the reactions which take place when iron rusts. If a bright strip of iron is immersed in a solution of a copper salt, such as the sulphate, iron goes into solution and copper plates out on the iron. The reason for this is that the solution pressure of the iron is greater than that of the copper ions, therefore iron passes into solution, the positive static charge being transferred from the copper ions to the iron ions. This reaction is simply written:

$$Fe + \overset{+}{Cu} \,.\, \overset{-}{SO_4} = \overset{+}{Fe} \,.\, \overset{-}{SO_4} + Cu.$$

Now, if we leave out the copper sulphate in this system, and immerse the strip of iron in plain water, a similar reaction takes place. It is known to chemists that even the purest water is to a slight extent dissociated, and therefore contains hydrogen ions. That is to say, while water consists mainly of molecules written H_2O, there also are present positive hydrogen ions, H, and the equivalent negative hydroxyl ions, OH. Hydrogen acts as a metal and has a solution pressure somewhat less than that of iron. Therefore, when iron is by any means whatever brought into contact with water it will, to a certain extent, pass into solution by exchange with hydrogen. This reaction, upon which all forms of corrosion are primarily based, may be written:

$$Fe + 2\overset{+}{H} \,.\, \overset{-}{OH} + \overset{++}{Fe} \,.\, \overset{-}{OH}.\overset{-}{OH} + 2H.$$

It has been shown experimentally that iron can not at ordinary temperature combine with oxygen unless the iron first passes into solution and it is apparent from this that the initial cause of rusting is not oxygen, but hydrogen bearing a static electrical charge; in other words, the hydrogen ion. Now, all acids derive their character from the fact that they dissociate in solution with the production of hydrogen ions, and this is the reason why all acids stimulate the corrosion of iron. On the other hand, alkalies dissociate in solution with the production of hydroxyl ions, which by the reverse action already explained neutralize and remove the hydrogen ions and thus inhibit rusting.

It is well known to architects that sulphurous acid, as well as carbonic acid, from coal smoke, produces rapid destruction of steel, whereas alkaline cements, mortars, and concrete will preserve steel imbedded in them as long as the reaction remains sufficiently alkaline. The only cases recorded in which steel is said to have corroded when imbedded in concrete are those where percolating water under pressure has washed away the free lime and thus removed the alkaline reaction.

We may now turn to the rôle played by oxygen in the rusting of iron. Iron is one of those elements which exist in more than one state of combination with oxygen. The least oxidized state is called *ferrous,* while the higher state is called ferric. Oxygen always changes ferrous to ferric compounds. Iron, having once appeared in solution in the ferrous condition by exchange with hydrogen, is at once attacked by oxygen and precipitated at the point of attack in the form of the insoluble hydrated ferric oxide, which is known as rust.

(To be continued.)

THE MODERN SMALL LIBRARY

BY EDWARD L. TILTON, ARCHITECT—Concluded

FIGURE 18 represents a library at Bayonne, N. J., which cost completely furnished $50,000. It is faced with white brick and Indiana limestone and has fireproof floor construction throughout.

The semi-circular stack room with radiating stacks facilitates supervision.

Figure 19 represents a library at Winston-Salem, N. C., costing complete less than $15,000. Faced with light brick, a red tile roof, wood cornice and columns.

A lecture room is provided in the rear basement with high ceiling and separate entrance from the side street.

Figures 20, 21 and 22 give plans and exterior view of a branch library at Cincannati, Ohio, faced with mottled pressed brick, Flemish bond, Indiana limestone and red Spanish tile roof. Cost less than $45,000. The lot falls off rapidly toward the rear, which gives lecture hall entrance at grade level. The ceiling of the lecture room is suspended by rods from the steel roof trusses. The rods pass through the rear library room and are concealed in the columns.

Figure 23 is a design for a library school building with a tower which serves as portal to the university campus.

Figures 24 and 25 show a building for Juniata College at Huntington, Pa. This is a combination library to be used both by the town and the college. The delivery counter commands the rooms, entrances and stairway. The side entrance is for the use of students arriving from the campus; it gives access to a day students' room in the basement and to the seminary or study rooms in the upper story.

MOUNT AUBURN-CORRYVILLE LIBRARY, CINCINNATI. (FIG. 20.)

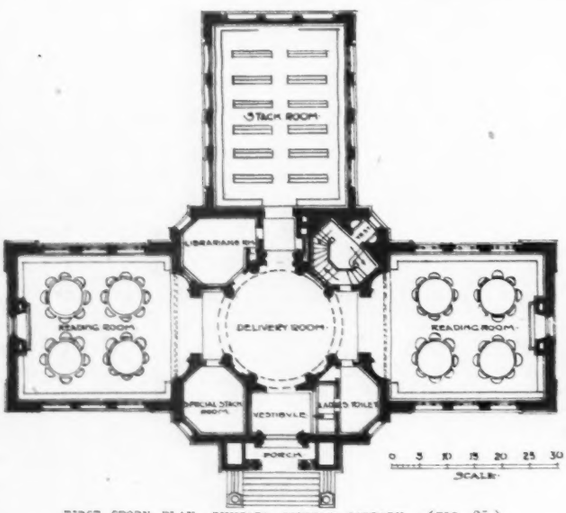
Of the two reading rooms shown, one is for the students, the other for the townspeople.

A special fireproof stack room has been provided to house a valuable collection of colonial works.

The main stack room can accommodate 20,000 volumes in each tier of seven shelves.

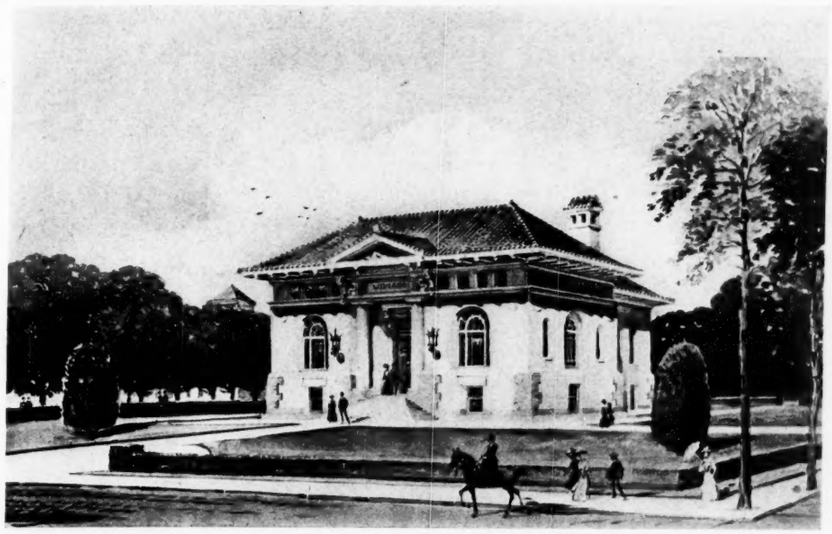
The building is constructed of red brick with light terra cotta trimmings and tile roof, and its cost complete will not exceed the appropriation of $28,000.

CARNEGIE LIBRARY, BAYONNE, N. J. (FIG 18.)



FIRST STORY PLAN, JUNIATA COLLEGE LIBRARY. (FIG. 25.)

JUNIATA COLLEGE LIBRARY, HUNTINGTON, PA. (FIG. 24.)



Carnegie Library

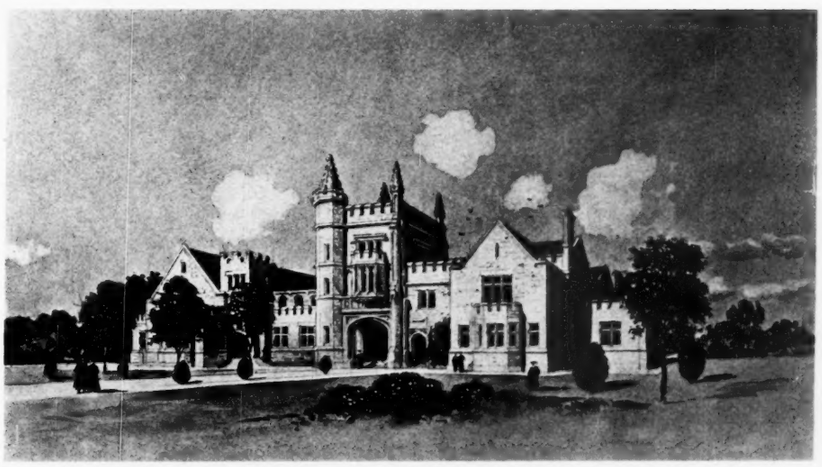
Winston-Salem, N. C.

(FIG. 19.)

Library School for

Cleveland, Ohio

(FIG. 23.)



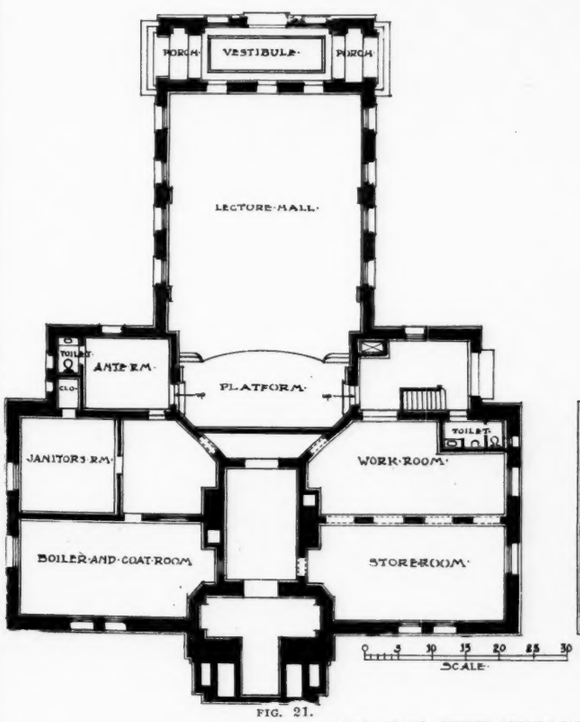


FIG. 21.

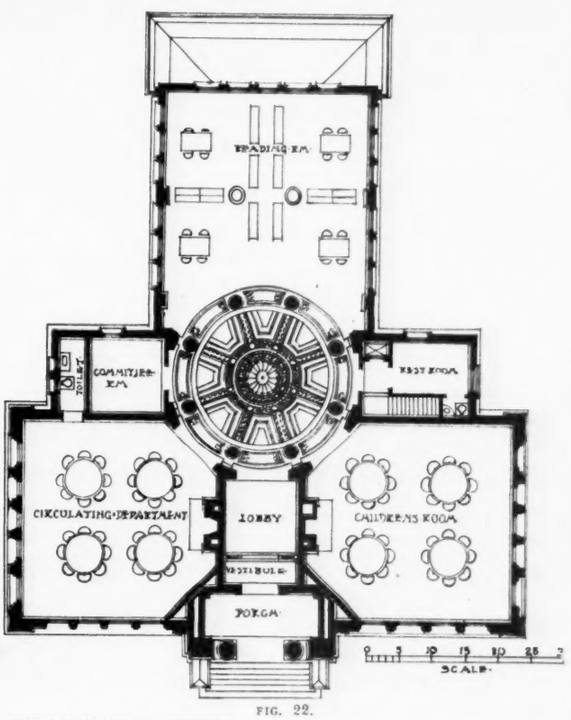


FIG. 22.

FLOOR PLANS, MOUNT AUBURN-CORRYVILLE LIBRARY, CINCINNATI.

REINFORCED CONCRETE WORK

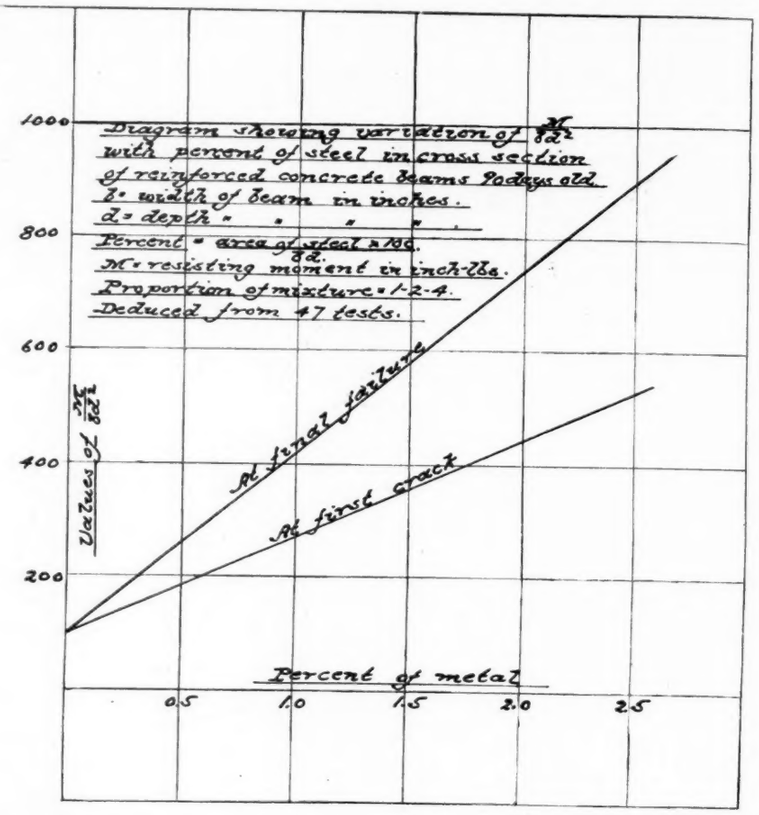
BY F. D. WARREN, ARCHITECT—Continued

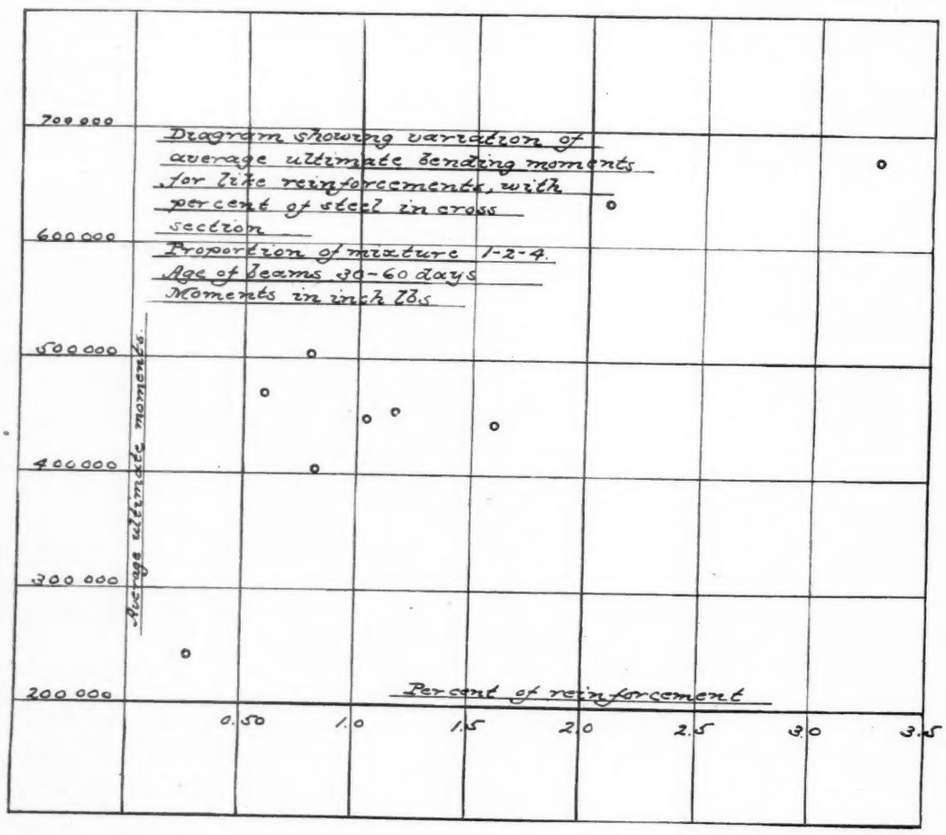
AGAIN, poor bond between the surface of the steel exposed to the concrete surely warrants a greater percentage of the former to prevent slipping and a reduction of adhesive stress between the two.

Finally, yet in fact more significant than any of the others mentioned from the standpoint of a designer, careful and proper designing to develop the full stresses of shearing and diagonal tension will always justify an increase of reinforcement over that required where these stresses are not at all, or only partly, provided for.

Effect of Cross Section Upon the Percentage of Reinforcement.—Considering beams of like width, for every depth there is a corresponding percentage of steel. The amount of this latter should be determined relative to the location of the neutral axis of each particular depth and mixture rather than from a fixed per cent of the cross section in each case. In spite of this fact, we still find beams figured with a fixed percentage of steel as the basis of the calculation, apparently ignoring the consideration of whether wide and shallow or narrow and deep sections are being considered.

Results of Experimentation.—Such results derived from or parts of tests taken from a few of the several series of experiments carried on in the past as bear upon this matter are inserted here.

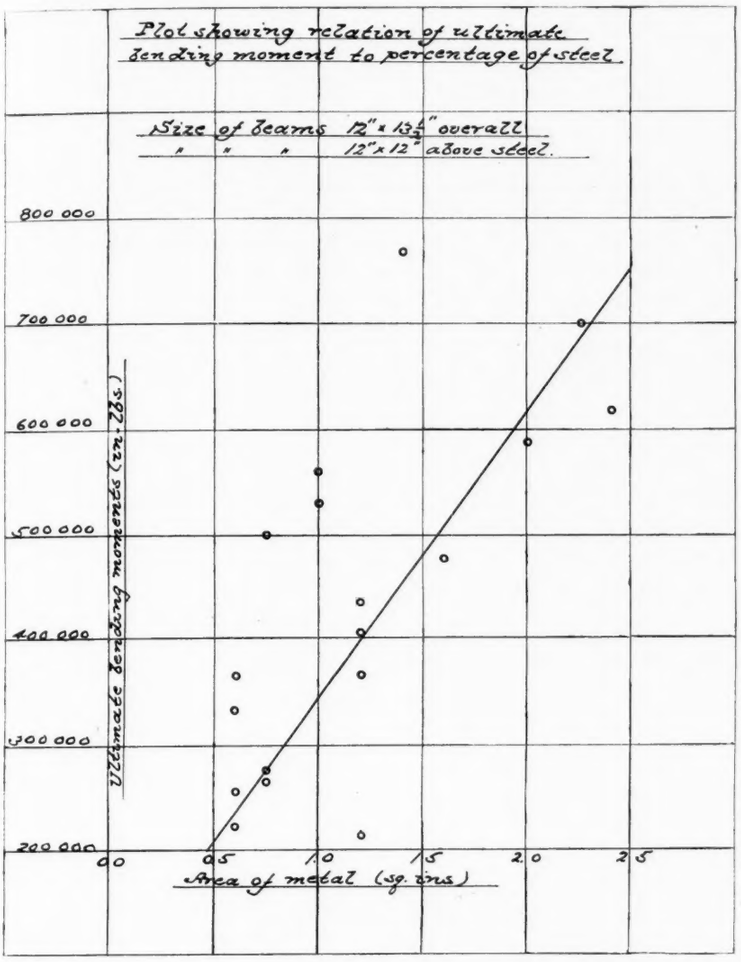




The diagram at left gives the results of tests made upon 22 reinforced concrete beams by Prof. Lanza at the Massachusetts Institute of Technology.

All beams were 8 inches wide, 12 inches deep and were tested under a span of 11 feet. The plots on the diagram are averages taken from the ultimate bending moment for like amounts of reinforcement. Since the averages include beams ranging from 30 to 60 days set, the values are significant only to show the effect

of reinforcement upon the strength of reinforced concrete beams. The variation of the maximum bending moment with the amount of reinforcement, while not exactly proportionate due to various causes during the forming and setting stages, is very marked and should warrant due attention in the design.



The first diagram represents the results of tests made upon 47 reinforced concrete beams during 1902 to 1904 by students at Purdue University under the direction of Prof. Hatt.

The representative curves of these tests as drawn show very clearly the effect of the percentage of steel upon the strength of reinforced concrete beams.

The plot submitted above is made up of values ascertained by Prof. Talbot, of the University of Illinois. All tests were made upon beams having a uniform size of 12x13½ inches outside dimensions. The results not only corroborate those of Prof. Lanza and Prof. Hatt, but further emphasize the important bearing the percentage of reinforcement has upon the design of reinforced concrete.

Prof. Morsch, in his work entitled "Der Eisenbetonbau," gives the following values for the ultimate compressive stress of concrete when reinforced as noted; using 1 per cent of reinforcement, the value was 178 kgm. per square cm.; using 1.45 per cent of reinforcement, the value was raised to 247 kgm. per square cm. From these values we see that an increase of 45 per cent in the amount of steel raised the ultimate compressive stress about 40 per cent, using the same size of beams and a like mixture of concrete.

General Remarks.—From the foregoing values it is easily seen how the factor of safety of a given beam may be raised to safely meet any condition without either increasing the size or reducing the head room; or the loading may be increased and yet preserve an ample factor of safety. Had this important fact been recognized earlier and a higher percentage of steel used, doubtless many of the serious accidents of the past could have been prevented.

Numerous examples taken from past experimentation could be cited to further emphasize the relation between the percentage of reinforcement and the strength of reinforced concrete. Far be it from the purpose to make this article a compilation of research data upon the subject; to the contrary, it is intended merely to bring out certain important facts bearing upon the design of reinforced concrete that seem to have been overlooked or have not received the attention that properly belongs to them.

One of the most important and yet most serious problems before the designer of reinforced construction is the limitations and restrictions imposed upon its use by city or municipal regulations. Far be it from the intention to decry the enactment of such regulations. By all means are they necessary, preferably universal ones, by which the construction may be governed and placed on a common plane of usage in all countries. Laws are needed, but they should be elastic enough to protect the sagacious and conscientious designer in order to stimulate the usage of the construction; on the other hand, sufficiently binding to control those of mercenary intentions, in order to prevent the abuse and misuse of the construction.

That a single statement restricting the maximum compressive stress in a concrete shape to a certain amount cannot be the proper solution of the problem, may be shown by the following reasons: First, the maximum compressive stress in a beam is dependent upon the location of the neutral axis; second, the location of the neutral axis, and hence the maximum stress, is dependent upon the percentage of steel. Because of these facts, a regulation fixing the maximum compressive stress without determining or allowing for either of these conditions upon which the said stress is wholly dependent, cannot satisfy the conditions with justice to all concerned.

Formulæ.—While scores of formulæ for figuring sizes of reinforced concrete shapes have been proposed for a universal solution, the majority have been based upon the same hypotheses and have differed merely in symbols and assumptions, outside the assumed variation of the stress-strain diagram of the compressive side.

ARTISTIC EXPRESSION OF STEEL AND CONCRETE*

BY C. HOWARD WALKER, ARCHITECT—Concluded

IF from minor structure it is probable that it will evolve into a system of slightly recessed vertical panels. As the vertical factors in the structure are usually more in number than the horizontal ones, and as these factors are slender, the stiles of such panelling would be narrow. Vertical panelling, whether of the type of perpendicular Gothic, or the panels with modelled or mosaic borders of Byzantine work, or the Renaissance panelling of Fra Gioconda, are all suggestive of possible treatment. The frames to the openings can be treated like any frames, either simply or elaborately, as they are simply borders confining spaces. If, on the other hand, the surfaces are not to announce the minor structure, they may either be plain or have surface ornament, in the form of all-over patterns, low relief, mosaic or sgraffito, care being required only that the scale of the pattern or relief shall not be so great that it cannot be apparently readily carried by a thin wall. Deep reveals and soffites are necessarily artificial and not expressive of the structure, and the contrasts of light and shade usually obtained by these may be either produced by modelling or by color, or both.

The basis of the structure is metal, which is concealed and protected in all important structural parts of the building, but can readily be announced in the openings, by grilles, or delicate metal fenestration. Excellent opportunity and great latitude in design are possible, therefore, in the subdivision of the openings either in cast or wrought metal, such detail being an admirable contrast to the other type of ornament of the concrete. The concentration and elaboration of grilles at the top of openings has numerous prototypes in all styles of architecture. Because metal is capable of long, sinuous curves, it is by no means essential that minor detail should adopt such an initial scheme and become thereby too important and out of scale with the other proportions of the building. The main surface of a re-enforced concrete building is of concrete, a material which is homogeneous, has no joints and is actually a thin skin to the structure, but sufficiently thick to cover and disguise the joints of the structure. It is inferior to most stone in vivacity of surface texture and to both brick and stone in the scale given by constructive joints. It has, however, been more frequently used as a surface than any other material, and when finished with stucco, as with the Egyptians and Greeks, it presented a surface which admitted of equally the most vigorous and the most delicate polychromy. Its surfaces were those of unblemished parchment, making an admirable background not only for color but for impasto ornament. When two surface coats of contrasting colors were laid, sgraffito or scratched detail was possible, the only objection to this type of work being the action of frost upon it Concrete surfaces also permit the insertion of fragments of other material, marbles, metal, or glass or tiles embedded in it in patterns. Entire veneer of these, however, which entirely conceal the concrete, seem insufficiently supported unless they have their own independent system of apparent structure.

Another element of metal structure is that of the occurrence of stable projections which are greatly in excess of those which can be safely supported by any other material.

When such occur, as in bays, etc., the supporting factors should be strongly announced and even exaggerated, for we have not yet adjusted our sense of security to masses supported upon thin forms.

THE PLACING OF ORNAMENTAL DETAIL.

Ornament in architecture accents the component parts, either of the structure, or of the composition of the facade.

That which accents the component parts of the structure either accents the joints, or indicates the interstices of structure.

The accenting of joints is usually performed by moldings, or by concentrated spots, such as rosettes and capitals.

The indication of filling of interstices such as tympana, spandrils, panels, etc., any of which could be removed without jeopardizing the structure, is usually by ornamental patterns.

The ornament which accents lines of composition is usually on vertical axes, and is of specially designed spots, such as keystones, cartouches, exaggerated corbels, etc. This latter type is used sparingly or is absent in the best architecture of all styles, excepting when it is in the form of pinnacles, canopies, and heraldic scutcheons, in which case it has individual purpose in addition to that of mere accent of vertical axis.

The position of ornament in re-enforced concrete is not different from that of any articulated structure, but there are larger interstices—that is, larger surfaces of non-supporting wall—therefore, it is not inconsistent that these surfaces, if ornamented at all, should be more generally ornamented than in stone buildings. But there is no necessity or object in suggesting clasps, straps, bolt heads and other small metal details in the covering of the metal. Nor is there any object in making the ornament thin and tenuous, because of that quality in the skeleton. A man with small bones need not have slits for eyes and mouth.

The general effect of re-enforced concrete structure is that of lightness, of delicacy. Its moldings and ornament should correspond in character. The chief problem is to prevent an effect that is trivial, and that lacks stability. The only method by which slender structure and delicate detail can be made vigorous, is by contrast of simple surfaces with massed detail. In this case, the simple surfaces are over the structural factors and the curtain walls; and the massed detail is associated with the openings, and possibly with the cornice. Wrought metal grilles and balconies elaborate fenestration, polychromy and surface modelling (both focussed) all afford opportunities for the embellishment of a system of structure which is devoid of large piers, deep reveals and heavy shadows. All are in accord with such structure, and it is unnecessary to search for more sensational factors of expression. A re-enforced building is very apt to express itself tolerably well if none of the architectural detail applied to it is in imitation of stone, brick, or wood forms, if its metal ornament is wrought, and its concrete ornament plastic, or mosaic, or painting. It presents but one new problem, that of mak-

*Paper read at the Chicago Convention, A. I. A., November 20, 1907.

ing a thin thing as attractive as one with mass. As a matter of fact, solidity of mass enters largely into our feeling of permanency and stability, and it is probable that no large skeleton structure can ever compete with one having liberal third dimensions. Its character is that of lightness which has always been associated with impermanency, but that quality accepted as it needs must be, much can be done to make it attractive, without inventing combinations of forms which are uncalled for and which in themselves have no intrinsic value.

One of the constant criticisms of Roman architecture by instructors in architectural design is that the orders were used by the Romans merely as an ornament applied to the face of the construction. Partly engaged columns and pilasters which are not needed to indicate piers are amongst the examples cited of this solecism in design. Steel and concrete structure can, however, be well expressed in this manner, the engaged column often following literally the support within it, and the entablatures indicating the deep girders. It is, of course, unnecessary that either the caps or the moldings of the entablatures follow classical or other precedent, excellent opportunity being afforded for variants suggested by the relative proportions of beams to lintels and of both to the facade. Original capitals especially may be suggested by the bracketed forms at the tops of vertical supports and may be of as simple geometric type as are many of the Mohammedan capitals. The sole reason that well known styles are cited in connection with the possible treatment of steel and concrete forms is as a means of explanation of the character of the forms which may naturally be developed from the structure.

The design and ornamentation of the interiors of steel and concrete structures, in which the steel is covered, is not unlike that of any structure of columns, slender piers and beams.

In the cases which at times occur where protection from fire does not demand that steel structure shall be covered, and in which exposed steel is largly in excess of accessory concrete, the problem of artistic treatment becomes of a different character. Such structures are armory and large hall arched trusses—bridge spans, etc., i. e., either straight or curved trussed beams. These are especially interesting in elevated railway structures and elsewhere, where they are so frequently and continuously conspicuous, and where they are in this country so persistently made utilitarian only, with but little attention paid to the possibility of subtle line. This is all the more to be deplored from the fact that metal if scientifically related in its form to strain and stress, takes naturally some of the most delicate and subtle curves possible, but the custom, because material is cheaper than labor, is to erect structures assembled of straight lines only, with the occasional use of curved lower members. This is the principal reason for the apparent crudeness of steel structures. They are articulated structures, built up of component parts, bolted together. The interstices are larger in area than the factors of structure, and the structure has therefore a latticed, cobweb effect. Its satisfactory appearance depends entirely upon the design of the cobweb.

The lines of the main factors of the trusses can have the spring and curve which are so characteristic of metal under pressure while the minor factors of struts, rods, braces, etc., may be assembled so that certain combinations repeat and others indicate design and their silhouettes may be studied. For a steel truss structure, inside its main line, is effective by its silhouettes alone. In many cases, the mere multiplicity of parts is detrimental to scale; the perpetual crossing and recrossing of lines being more suggestive of wreck than of safety. So much is this the case in parallel bridge trusses that covering the structure or filling the interstices of the two outside trusses is at times advisable to give apparent stability to the span.

ACCESSORY APPLIED ORNAMENT.

Accessory ornament upon steel exposed structure is merely either to accent or develop long continuous lines or or introduce spots to create harmonious scale thoughout. Certainly the punctuated accent of bolt heads does neither the one nor the other.

The introduction of color into concrete stuctures is worthy of careful consideration.

Any general tinting of the concrete is naturally light in tone, but apart from the insertion or incrustation of other colored materials, whether mosaic or glass, marbles, or clay, glazed or unglazed products, presents an opportunity for interesting design. The concrete surface, however, being without joints and giving no indication of thickness, does not seem capable of carrying large blocks of material embedded in it, and colored designs are best, of assembled small factors. The cosmati work and the borbers of Byzantine panels are suggestive in this respect, as being veneer patterns in satisfactory scale. Concrete, stucco, and plaster covering has received many varieties of successful treatment in the past, the most satisfactory being that in which large surfaces of the concrete were contrasted with brilliant coloristic detail. The main contention of this paper is that the aesthetic treatment of steel and concrete is not one that necessitates strange and bizarre forms of detail, but one that recognizes lack of shadow, and delicacy of proportion of structure to areas.

MUNICIPAL IMPROVEMENT*

By T. M. Clark, Architect, Chairman

Your committee cannot report any very extensive movement during the year in the way of municipal improvements throughout the country, but such progress as has been made is of a gratifying character, indicating that the value of the training of architects in qualifying them to solve the problems connected with the convenience, beauty and healthfulness of cities is now recognized in this country as it has never been before.

While preliminary plans have been made during the year for improvements in a considerable number of cities, including many of the smaller communities, as well as most of the large ones, comparatively little progress has been made in carrying them out; but it is satisfactory to observe that this has been due to lack of means, rather than failure to appreciate the value of the suggestions made, and that, so far as any work has actually been done, it has been carried out in conformity with the plans. In Cincinnati, for example, the municipal government, urged by the intelligent and persistent efforts of the Cincinnati Chapter of the Institute, has had a comprehensive plan for improvement prepared by Mr. Kessler, of Kansas City, and it is proposed to carry out this plan as opportunity may offer, while in Buffalo and Pittsburgh influential associations of citizens support the plans prepared and approved by the local architects. It is hardly necessary to point out the

*Report of Committee, presented at the Chicago Convention, A. I. A., November 19, 1907.

difference between this way of treating the suggestions of experts and the contemptuous disregard of their advice which was the fashion among public officials a few years ago. Similarly, in Washington, the plan of the Burnham Commission, after many anxieties, has been practically adopted by the authorities, and it is unlikely that any serious attempt will now be made to spoil it; while the Cleveland scheme, which has been in the hands of architects from the start, is now well advanced in execution.

Your committee has thought it desirable to volunteer its assistance in two interesting cases, and has been pleased with the manner in which its offers were received. It will be remembered that an effort was made last winter in California to have the capital of the State transferred from Sacramento, the present capital, to Berkeley, the seat of the State University, and a city of great and increasing importance; and at the same time, a movement was started for the development of the commercial facilities of Berkeley, whose natural advantages as a seaport rival those of San Francisco. In view of the magnificent plan, by M. Berard, adopted for the group of buildings for the University of California, forming the principal feature of the city, it seemed to your committee that it would be most unfortunate to leave to chance the disposition of the remaining portions of the new municipality which the contemplated political and commercial changes would create, and a letter was sent to Mr. John G. Howard, fellow of the Institute, practicing in Berkeley, and also professor of architecture in the University, pointing out how necessary it was to begin the study of plans of this kind as early as possible, before they were rendered impracticable by ill-considered partial improvements. Professor Howard was kind enough to reply that he found these suggestions "most timely." He immediately had a number of copies made of the letter of the committee, and sent them to the most influential citizens of Berkeley, requesting also information, which was gladly furnished by the committee, as to documents and so on which might be used in case of need. A somewhat similar suggestion was made, through Mr. John Calvin Stevens, fellow of the Institute, in the case of Portland, Maine, where the project of transferring the State capital from Augusta was last year revived. The suggestion was very well received, and, although the prospect of transferring the capital seems now rather remote, your committee hopes that its action may have done something to encourage the architects of the city in their efforts for the proper solution of the problem of municipal development there.

In Boston, the study by members of the local chapter of various problems of municipal improvement has met with rather unexpected results. For two years a committee of the chapter collected and discussed a variety of disconnected plans for the development of lines of communication, the adornment of public places, and so on, adding to these a plan for the improvement of the harbor according to modern ideas. The collection of plans excited so much interest that the entire report of the committee was published at the joint expense of the Boston Chapter, the Chamber of Commerce, the Real Estate Exchange, the Metropolitan Improvement League, the Stock Exchange, the Merchants' Association, the Board of Fire Underwriters and the Master Builders' Association; and, on the petition of the Metropolitan Improvement League, the Legislature directed the Governor to appoint a commission to study the entire subject, and appropriated a generous sum for its expenses. One of the members of this commismission is the present President of the Boston Chapter. Meanwhile, the plans shown in the report for the improvement of the harbor attracted the attention of citizens more interested in utilitarian than aesthetic questions. The Mayor almost immediately appointed a municipal Water Front Commission, to study the whole subject of the development of the port; while the legislature, by resolve, specifically instructed the Harbor and Land Commission, a permanent and important body, to consider the expediency and cost of establishing a system of public docks, substantially as advocated in the report; and, at the instance of the Governor, still a fourth commission was appointed, with extensive powers, charged with the consideration of matters in general relating to the commerce and industries of Massachusetts.

Those who imagine architects to be mere draughtsmen may object that the study of dock systems is rather engineering that architectural work; but it is said by engineers themselves that the habit of dealing with problems involving a great variety of considerations peculiarly qualifies architects for the comprehensive treatment of general schemes of the kind; and, as a matter of fact, the Free Harbor of Copenhagen, which is reputed to be, for its size, the best arranged in Europe, was designed and carried out by an architect; so that, in our professional study of the improvement of seaport towns, the commercial side of the question should not be forgotten, and may, indeed, often be combined very effectively with purely aesthetic considerations.

In January, 1907, the New York City Improvement Commission presented to the Mayor and Aldermen a detailed report, of great interest, supplementing the preliminary report of 1904. In the new report a broad and comprehensive plan is proposed, intended to afford adequate avenues of communication between the different parts of each borough, as well as between the different boroughs themselves and the outlying districts, and to secure a continuous park system, connecting the parks in each borough. Many other important suggestions are made, and tentative solutions offered for problems of great difficulty. At a meeting of the New York Chapter, to which representatives of all societies interested in city improvement were invited, the new report of the commission was warmly commended, and the municipal authorities requested to make some arrangement to continue the work, and carry the suggestions into effect; and the Board of Estimate and Apportionment is now considering some of the most important recommendations made by the commission.

In Chicago, where important improvements are now being studied by Mr. Burnham, the plans have not, as yet, been fully determined, but the scheme promises to be of great interest, and it is worth noting that an adequate modern dock system forms a part of the improvements projected here.

Respectfully submitted for the Committee on Municipal Improvement.

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Residence of Mr. Moore, Oak Park, Ill., Frank Lloyd Wright, Architect.

Weld Boat Club House, Cambridge, Mass., Peabody & Stearns, Architects.

House for Mrs. C. T. Schoen, Rose Valley, Pa., Price & McLanahan, Architects.

Interior St. Mathew's Church, Washington, D. C., Heins & LaFarge, Architects.

First Baptist Church, Seattle, Wash., Marsh & Russell, Architects, Los Angeles, Cal.

Statuary Group, "The First Inhabitants of Pittsburg," E. W. Deming, New York, Sculptor.

Union Trust Company Building, Washington, D. C., Wood, Donn & Deming, Architects.

Competition Design for Registry of Deeds Building Salem, Mass., Pell & Corbett, Architects.

Interior of a Protestant Church, Germany, Prof. Fritz Schumacher, Architect, Dresden, Germany.

Statue, "Greece," for New Custom House, New York, Cass Gilbert, Architect; F. E. Elwell and A. Zeller, Sculptors.

Maryland Institute, Baltimore, Md., Simonson & Pietsch, Architects. General view and entrance detail are shown.

Hendrick Hudson, Apartment Building, New York, Rouse & Sloan, Architects. Exterior and entrance detail are given.

Residence of L. A. Kohn, Chicago, Treat & Alschuler, Architects. An exterior view and views of stairway and dining room are shown.

St. Mels Parochial School, Chicago, Murphy & Cloyes, Architects. There are twenty class and three society rooms, and an assembly room seating one thousand. The construction is slow burning and fireproof; cost, $100,000.

ASSOCIATION NOTES.

LOS ANGELES CHAPTER A. I. A.

The election of officers of the Los Angeles chapter of the American Institute of Architects, which took place recently, resulted in the selection of Carroll H. Brown for president, Myron Hunt, vice-president; Fernand Parmentier, secretary, and August Wakerbarth, treasurer.

THE CHICAGO ESTIMATORS' CLUB.

The fifth annual entertainment recently tendered to architects, engineers and contractors brought together representative men in these callings for an evening of sociability. The address of the evening was delivered by Architect George C. Nimmons. His subject was on competitive bids.

BROOKLYN CHAPTER A. I. A.

The officers elected at the last annual meeting of the Brooklyn chapter A. I. A., held recently, to serve for the year 1907-1908 were as follows: President, Henry Clay Carrel; vice-president, Charles T. Mott; surveyor, Alexander Mackintosh; treasurer, Henri Fouchaux; secretary, Walter E. Parfitt; corresponding secretary, Walter L. Cassin, box 111, Brooklyn, N. Y.

ILLINOIS CHAPTER A. I. A.

The regular monthly dinner and meeting of the chapter were held at the clubroom at the Art Institute Monday, December 9. Dinner was served at 6 p. m. The special business for the meeting was the report of the entertainment committee of the Forty-first annual convention. The report showed that the funds were ample for the expense incurred. In accordance with notice given at the October meeting, amendments to Article 6, Section 1 and 2, of the by-laws, were voted upon and carried. The amendments in brief change the annual dues of all institute members whose places of business are more than thirty miles from the Cook county court house from $5 to $10. They also change annual dues of all chapter members from $5 to $10.

CHICAGO ARCHITECTS' BUSINESS ASSOCIATION.

The election of officers resulted in the selection of the following for the coming year: President, Irving K. Pond; first vice-president, Richard G. Schmid; second vice-president, Edmund R. Krause; secretary, Emery Stanford Hall; treasurer, Samuel A. Treat; board of directors, George Beaumont, Robert C. Berlin, Normand S. Patton, George L. Pfeiffer, Harry B. Wheelock, Arthur F. Woltersdorf; board of arbitration, George Beaumont, Robert C. Berlin; Normand S. Patton, Allen B. Pond, S. A. Treat, H. B. Wheelock, Peter B. Wright. The treasurer's report showed a strong working balance. There has been a good increase in the membership. The committees are active and the outlook for continued advancement and usefulness was never better.

SOUTHWESTERN ENGINEERS' AND ARCHITECTS' CLUB.

The club has engaged and fitted in very appropriate style clubrooms on the second floor of the Mason building, Houston, Texas. The three rooms are tastily arranged for convenience and comfort. All furniture is in the pleasing mission style in Spanish leather and weathered oak. The first room is fitted as a library, with comfortable chairs, tables and sectional bookcases. Connecting is the meeting rooms, also fitted with tables, chairs, writing desks and hangings. Adjoining is the board of directors' meeting room and the secretary's office. The club is open at all hours to members and guests and the library is open to the public generally for use for reference. This will supplement the Carnegie library with technical literature carefully selected by our leading engineers and architects. Officers: Harry Pennington, president; T. U. Taylor, vice-president; J. S. Burk, secretary; W. P. Cottingham, treasurer; W. L. Dormant, librarian.

ARCHITECTURAL LEAGUE OF AMERICA.

Work on the Architectural Annual is progressing satisfactorily. The Annual is the official organ of the league, the proceeds of which go to maintain a foreign traveling scholarship. The cost of this volume—$2 a copy—is insignificant compared to the value of the work. Articles of considerable worth will be contributed by a number of the most prominent architects in America, and more than one hundred reproductions of selected examples of hitherto unpublished work throughout the country will be shown. In order to protect members against an exhausted edition and to render them a privilege by virtue of their membership in the Architectural League of America, the publishing and editing committee have established a "members' rate" of one dollar the year. This action has been taken as a result of the great interest manifested by the profession at large, the prospect of an exhaustive demand for copies, and the possibility of disposing of the edition to dealers.

SOCIETY OF BEAUX ARTS ARCHITECTS, NEW YORK.

At the recent annual meeting of the society the following officers were elected for the year: President, Lloyd Warren; vice-president, A. W. Lord; secretary, Louis E. Jallade; treasurer, Joseph H. Hunt, and corresponding secretary, W. W. Bosworth. The society is much elated with the gift of $20,000 toward its Paris prize fund. The winners in the Pupin prize competition as announced by President Lloyd Warren are: First prize to George R. Klinkhardt and the second to F. H. Barry. Both men are members of the atelier of Henry Hornbostel, No. 202 East Forty-second street. Two prizes of $50 and $25, respectively, were offered by Professor Pupin of Columbia University for the best designs for the ornamental treatment of some scientific appliance—in this instance an automobile. A committee representing the society has been appointed to aid the Washington committee in the fight to secure the carrying out of the plans of the Senate Park commission for the aggrandizement of Washington, D. C.

WASHINGTON (D. C.) ARCHITECTURAL CLUB.

Arrangements are making for the club's annual exhibition, to

difference between this way of treating the suggestions of experts and the contemptuous disregard of their advice which was the fashion among public officials a few years ago. Similarly, in Washington, the plan of the Burnham Commission, after many anxieties, has been practically adopted by the authorities, and it is unlikely that any serious attempt will now be made to spoil it; while the Cleveland scheme, which has been in the hands of architects from the start, is now well advanced in execution.

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Residence at East Orange, N. J., Robt. T. Lyons, Architect, New York.

Residence of Mr. Moore, Oak Park, Ill., Frank Lloyd Wright, Architect.

Weld Boat Club House, Cambridge, Mass., Peabody & Stearns, Architects.

House for Mrs. C. T. Schoen, Rose Valley, Pa., Price & McLanahan, Architects.

Interior St. Mathew's Church, Washington, D. C., Heins & LaFarge, Architects.

First Baptist Church, Seattle, Wash., Marsh & Russell, Architects, Los Angeles, Cal.

Statuary Group, "The First Inhabitants of Pittsburg," E. W. Deming, New York, Sculptor.

Union Trust Company Building, Washington, D. C., Wood, Donn & Deming, Architects.

Competition Design for Registry of Deeds Building Salem, Mass., Pell & Corbett, Architects.

Interior of a Protestant Church, Germany, Prof. Fritz Schumacher, Architect, Dresden, Germany.

Statue, "Greece," for New Custom House, New York, Cass Gilbert, Architect; F. E. Elwell and A. Zeller, Sculptors.

Maryland Institute, Baltimore, Md., Simonson & Pietsch, Architects. General view and entrance detail are shown.

Hendrick Hudson, Apartment Building, New York, Rouse & Sloan, Architects. Exterior and entrance detail are given.

Residence of L. A. Kohn, Chicago, Treat & Alschuler, Architects. An exterior view and views of stairway and dining room are shown.

St. Mels Parochial School, Chicago, Murphy & Cloyes, Architects. There are twenty class and three society rooms, and an assembly room seating one thousand. The construction is slow burning and fireproof; cost, $100,000.

ASSOCIATION NOTES.

LOS ANGELES CHAPTER A. I. A.

The election of officers of the Los Angeles chapter of the American Institute of Architects, which took place recently, resulted in the selection of Carroll H. Brown for president, Myron Hunt, vice-president; Fernand Parmentier, secretary, and August Wakerbarth, treasurer.

THE CHICAGO ESTIMATORS' CLUB.

The fifth annual entertainment recently tendered to architects, engineers and contractors brought together representative men in these callings for an evening of sociability. The address of the evening was delivered by Architect George C. Nimmons. His subject was on competitive bids.

BROOKLYN CHAPTER A. I. A.

The officers elected at the last annual meeting of the Brooklyn chapter A. I. A., held recently, to serve for the year 1907-1908 were as follows: President, Henry Clay Carrel; vice-president, Charles T. Mott; surveyor, Alexander Mackintosh; treasurer, Henri Fouchaux; secretary, Walter E. Parfitt; corresponding secretary, Walter L. Cassin, box 111, Brooklyn, N. Y.

ILLINOIS CHAPTER A. I. A.

The regular monthly dinner and meeting of the chapter were held at the clubroom at the Art Institute Monday, December 9. Dinner was served at 6 p. m. The special business for the meeting was the report of the entertainment committee of the Forty-first annual convention. The report showed that the funds were ample for the expense incurred. In accordance with notice given at the October meeting, amendments to Article 6, Section 1 and 2, of the by-laws, were voted upon and carried. The amendments in brief change the annual dues of all institute members whose places of business are more than thirty miles from the Cook county court house from $5 to $10. They also change annual dues of all chapter members from $5 to $10.

CHICAGO ARCHITECTS' BUSINESS ASSOCIATION.

The election of officers resulted in the selection of the following for the coming year: President, Irving K. Pond; first vice-president, Richard G. Schmid; second vice-president, Edmund R. Krause; secretary, Emery Stanford Hall; treasurer, Samuel A. Treat; board of directors, George Beaumont, Robert C. Berlin, Normand S. Patton, George L. Pfeiffer, Harry B. Wheelock, Arthur F. Woltersdorf; board of arbitration, George Beaumont, Robert C. Berlin; Normand S. Patton, Allen B. Pond, S. A. Treat, H. B. Wheelock, Peter B. Wright. The treasurer's report showed a strong working balance. There has been a good increase in the membership. The committees are active and the outlook for continued advancement and usefulness was never better.

SOUTHWESTERN ENGINEERS' AND ARCHITECTS' CLUB.

The club has engaged and fitted in very appropriate style clubrooms on the second floor of the Mason building, Houston, Texas. The three rooms are tastily arranged for convenience and comfort. All furniture is in the pleasing mission style in Spanish leather and weathered oak. The first room is fitted as a library, with comfortable chairs, tables and sectional bookcases. Connecting is the meeting rooms, also fitted with tables, chairs, writing desks and hangings. Adjoining is the board of directors' meeting room and the secretary's office. The club is open at all hours to members and guests and the library is open to the public generally for use for reference. This will supplement the Carnegie library with technical literature carefully selected by our leading engineers and architects. Officers: Harry Pennington, president; T. U. Taylor, vice-president; J. S. Burk, secretary; W. P. Cottingham, treasurer; W. L. Dormant, librarian.

ARCHITECTURAL LEAGUE OF AMERICA.

Work on the Architectural Annual is progressing satisfactorily. The Annual is the official organ of the league, the proceeds of which go to maintain a foreign traveling scholarship. The cost of this volume—$2 a copy—is insignificant compared to the value of the work. Articles of considerable worth will be contributed by a number of the most prominent architects in America, and more than one hundred reproductions of selected examples of hitherto unpublished work throughout the country will be shown. In order to protect members against an exhausted edition and to render them a privilege by virtue of their membership in the Architectural League of America, the publishing and editing committee have established a "members' rate" of one dollar the year. This action has been taken as a result of the great interest manifested by the profession at large, the prospect of an exhaustive demand for copies, and the possibility of disposing of the edition to dealers.

SOCIETY OF BEAUX ARTS ARCHITECTS, NEW YORK.

At the recent annual meeting of the society the following officers were elected for the year: President, Lloyd Warren; vice-president, A. W. Lord; secretary, Louis E. Jallade; treasurer, Joseph H. Hunt, and corresponding secretary, W. W. Bosworth. The society is much elated with the gift of $20,000 toward its Paris prize fund. The winners in the Pupin prize competition as announced by President Lloyd Warren are: First prize to George R. Klinkhardt and the second to F. H. Barry. Both men are members of the atelier of Henry Hornbostel, No. 202 East Forty-second street. Two prizes of $50 and $25, respectively, were offered by Professor Pupin of Columbia University for the best designs for the ornamental treatment of some scientific appliance—in this instance an automobile. A committee representing the society has been appointed to aid the Washington committee in the fight to secure the carrying out of the plans of the Senate Park commission for the aggrandizement of Washington, D. C.

WASHINGTON (D. C.) ARCHITECTURAL CLUB.

Arrangements are making for the club's annual exhibition, to

be held in the spring of next year. The usual banquet will accompany the exhibition, but the exact date and several minor details have been left open for settlement at a future meeting, owing to the proposition under advisement of moving into larger and more commodious quarters the coming year. It will, as usual, however, be held in the month of April. The committee appointments for the coming year are as follows:

House—D. J. Lix, chairman; J. J. Crane, G. P. Hales, J. F. Wehrell.

Entertainment—L. J. Weissenborn, chairman; H. R. Barnes, H. C. Lincoln, R. M. Powers, F. P. Sullivan, A. M. Burtt, J. F. Mathieu, C. E. Parker, Elliot Woods.

Librarian—C. S. Salin.

Lectures—W. B. Woods, ex-officio chairman; R. L. Watmough, W. D. Windom, N. C. Weyth.

Competitions—T. J. D. Fuller, chairman; M. D. Morrill, L. M. Leisenring, O. Wenderoth.

Press—H. S. McAllister, chairman; J. H. Corning, E. T. Parker.

Exhibition—W. B. Wood, ex-officio chairman; H. S. McAllister, F. M. Reed, W. W. Stevens, L. J. Weissenborn, secretary.

Catalogue—W. B. Olmsted, chairman; P. C. Adams, W. I. Gideon, R. L. Watmough.

CHICAGO ARCHITECTURAL CLUB.

There has been announced the Club competition for a public comfort station, held under the auspices of the Municipal Art League of Chicago.

The United Associations' Committee of the city of Chicago on Public Comfort stations is composed of representatives of the following clubs:

Commercial Club, Chicago Association of Commerce, Rotary Club, City Club, Hamilton Club, Iroquois Club, Lincoln Club, State Street Association, Industrial Club, Municipal Art League, The Chicago Architectural Club, Illinois Federation of Women's Clubs, Men's Club of Erie Chapel, League of Cook County Clubs, Chicago Woman's Club, Social Economics Club and Chicago Relief and Aid Society.

These clubs have united their efforts in the endeavor to secure public comfort stations in the downtown district, stations which have long existed in the European cities and which have recently been established in our country, in cities like Washington, New York, Brooklyn, Boston and Denver. In Chicago the park commissioners have provided comfort stations in the various parks, the most recent one being at North avenue and Lake Shore drive.

The movement for stations in the downtown district has become so strong that their establishment is a question of but a short time. The object of this competition is to gather as many ideas as possible, in order that the stations when built may incorporate in them the best suggestions for an efficient, tasteful, yet simple comfort station.

The Municipal Art League will bestow an honorable mention on the makers of the three best designs, and will give publicity to them in the daily press, illustrating and describing the designs.

In addition to this, two friends of the club have generously given money for the following prizes: To drawing placed first, $75; to drawing placed second, $50; to drawing placed third, $25.

The prize drawings will become the property of the Chicago Architectural Club and may be used by the same to furnish suggestions to those who will build the stations.

The designs are to be sent in to the club rooms, 84 Adams street, not later than 5 p. m. January 3, 1908.

The competition will be judged and prizes awarded by the following jury, on Monday evening, January 6, at the club rooms: Howard Van Doren Shaw, chairman; R. C. Spencer, William B. Mundie, James W. Pattison, H. V. van Holst, ex-officio. The competition is open to all members of the club.

The drawings are to be accompanied by a blank sealed envelope containing the name of the competitor. Drawings and envelope to be delivered to attendant in charge of club rooms. The drawings are to have no mark of identification on them.

Note.—The attention of the competitors is called to the plans and views of comfort stations which are on exhibition in the clubrooms. C. H. Hammond is chairman of the competition committee of the Chicago Architectural Club.

MOULDINGS IN ARCHITECTURE.

Mouldings without the aid of fanciful carvings were long regarded as sufficiently ornamental to architecture, even at the period when their absence cannot possibly be ascribed to a deficiency either of taste or talent. Until about the middle of the fourteenth century the molded and sculptured capitals appeared as rivals, the one combining with elegance the most perfect simplicity, the other allying it with richness; but at a more advanced period of Edward III's reign simplicity was rejected as meanness, a mass of foliage composed a capital, and it was reserved for a later age to revive the simplicity of character which had originated in the infancy of architecture. This diversity of ornament was a privilege the full advantage of which was known and taken by the practitioners of ancient English architecture. Such devices as were at first only sparingly adopted afterward became common, and even those decorations which in their original application were intended only to record the gift or distinguish the exclusive property of a family or an individual, and which, therefore, should in strict propriety have been limited to their chapels, their monuments and their screens, became under the powerful influence of novelty the established appendages of pointed architecture, thus adding to a collection already innumerable the infinite varieties of heraldry. The general ornaments of English architecture were very numerous and irregular. In the early styles, heads, animals, foliage and flowers were promiscuously mingled, but the two latter were most common in after ages. However, new devices were added to what may strictly be considered the genuine ornaments; and it should seem that whatever emblems or representations might occur to the architect, whether sacred or secular, arms, badges, crests, cyphers, monograms, portraits, the emblems of the Passion or the most ridiculous grotesques were deemed equally fit to contribute to the internal as well as the external enrichment of any building, and were used with little discrimination from the stateliest church to the smallest dwelling house, no notion of an anomaly appearing to have been entertained either as to their propriety with reference to the species of architecture, or the use to which the building was applied.

NEW PUBLICATIONS.

HANDBOOK FOR ARCHITECTS AND BUILDERS. Published under the Auspices of the Chicago Architects' Business Association, 1907. Tenth Year. Emery Stanford Hall, Editor.

This handbook has come to be a standard work of reference for the architects and builders of Illinois, and especially of Chicago. This year several new features have been introduced that give added interest and value. The present requirements of the Chicago building laws are clearly and specifically given, and made readily available by a carefully prepared index. Highly important contributions to the annual have been made by Prof. N. Clifford Ricker and Prof. Arthur N. Talbot, of the University of Illinois. Professor Ricker gives recently acquired information on cast iron base plates for columns, and Professor Talbot, a recognized authority on the subjects, gives formula and rules for the design of reinforced concrete, deduced from experiments at the university covering several years. Among other interesting features are the plates illustrating a revised system of proportioning the architectural orders, conceived by Alfred W. S. Cross, M. A., F. R. I. B. A., and Alan E. Munby, M. A. Of much value is the complete system given of nomenclature for drawings and the Dewey index for classification of architectural information. This is the most promising system of classification for the endless data that an architect needs to have available at a moment's notice. In addition to the foregoing, the annual contains a wide range of useful tables, formula and information not readily accessible elsewhere. It is a book that is worth much more than its cost to all concerned in building, and reflects great credit upon its editor and publisher. Copies may be ordered of the Chicago Architects' Business Association, Association building, Chicago.

MANUFACTURERS who wish representation in Chicago can secure the services of a man with wide acquaintance with architects, and experience in bringing building materials to their attention and getting them specified. Address H. M. care of THE INLAND ARCHITECT, Pontiac building, Chicago.

THE INLAND ARCHITECT AND NEWS RECORD

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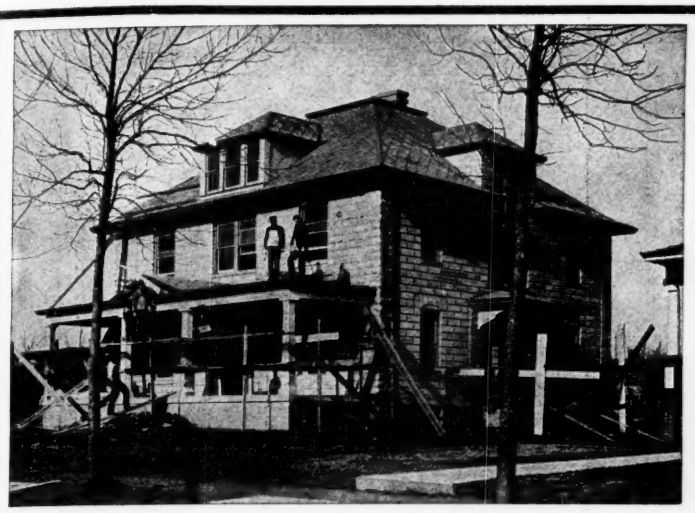

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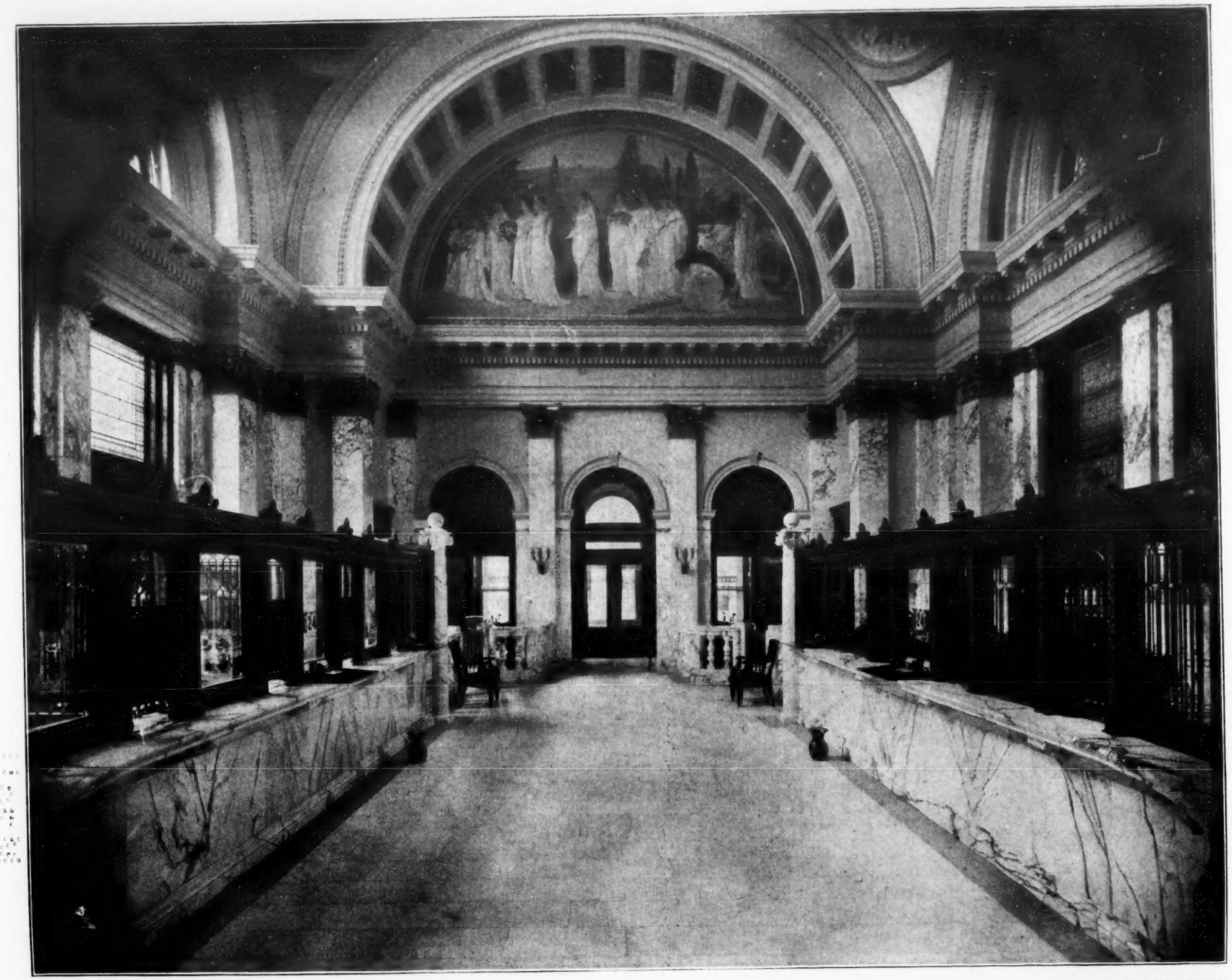

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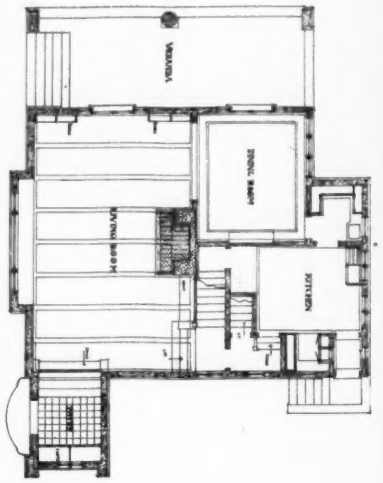

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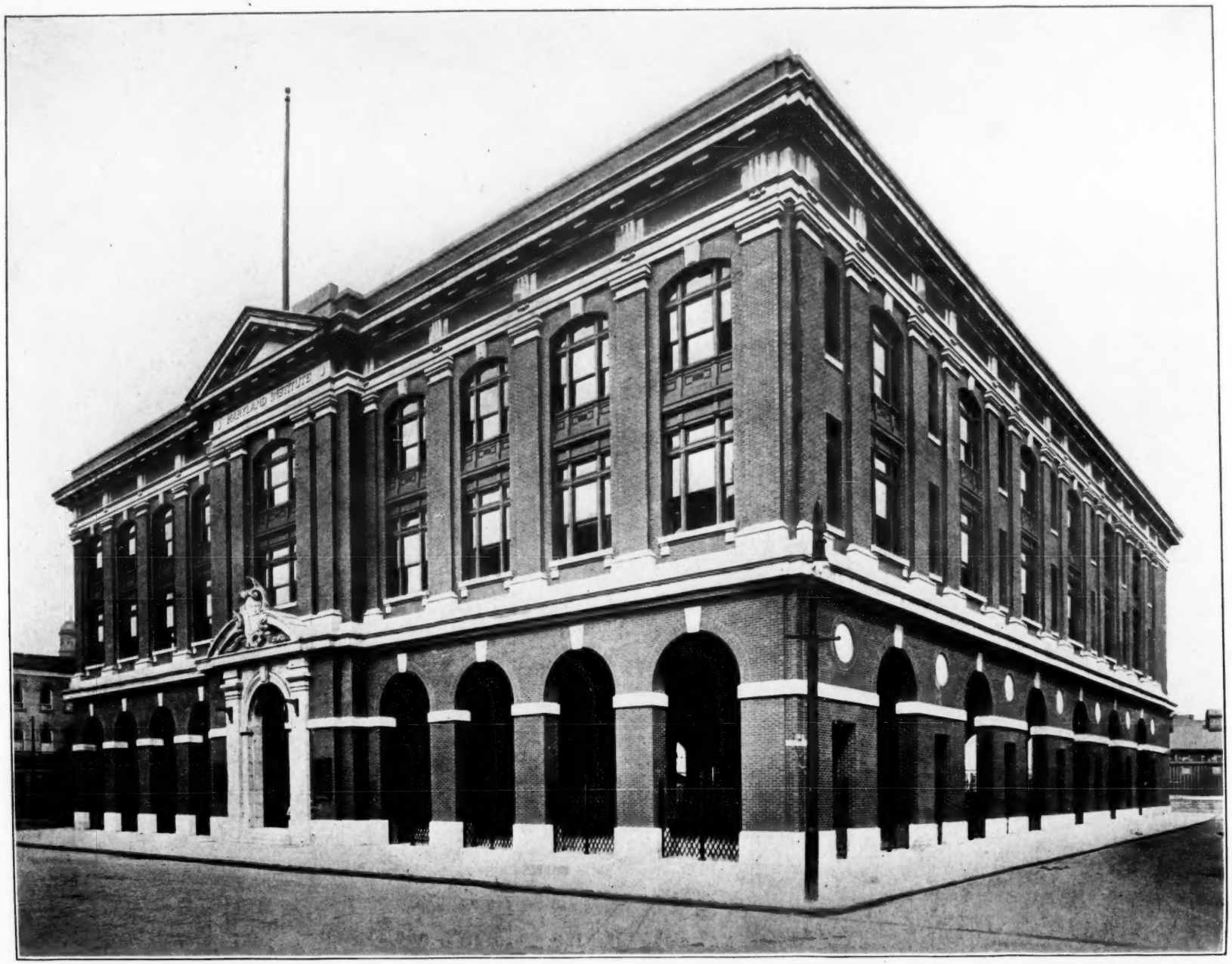

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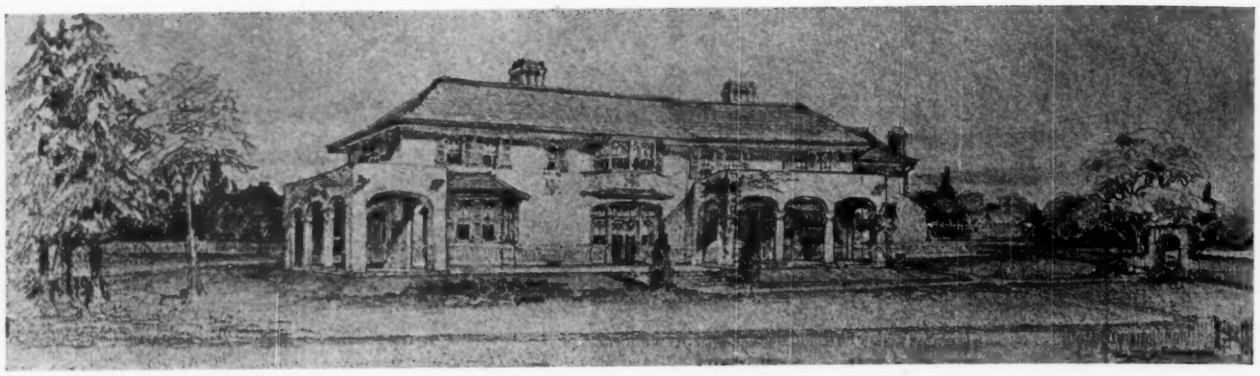

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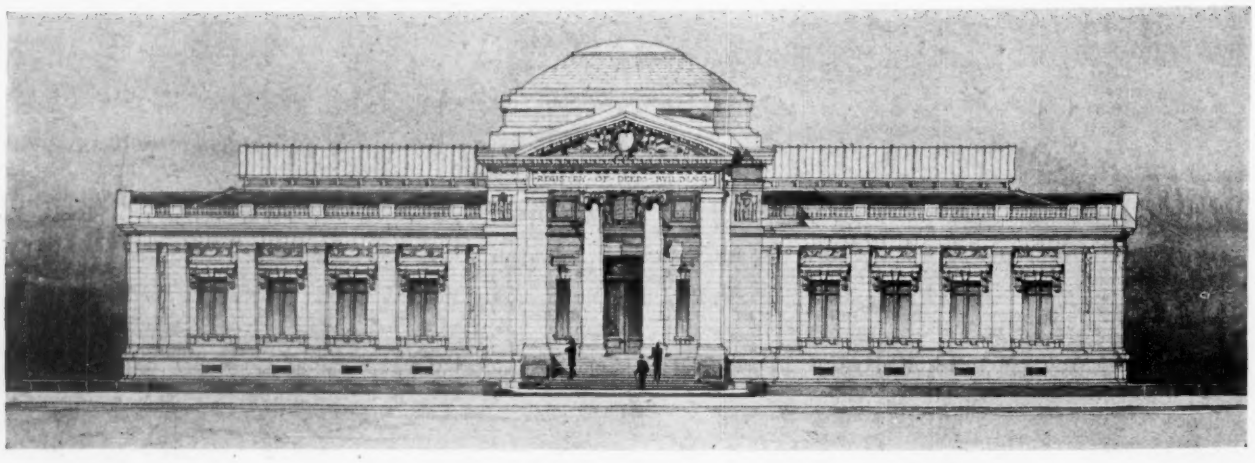
House for Mrs. C. T. Schoen. Rose Valley. Pa. Price & McLanahan. Architects



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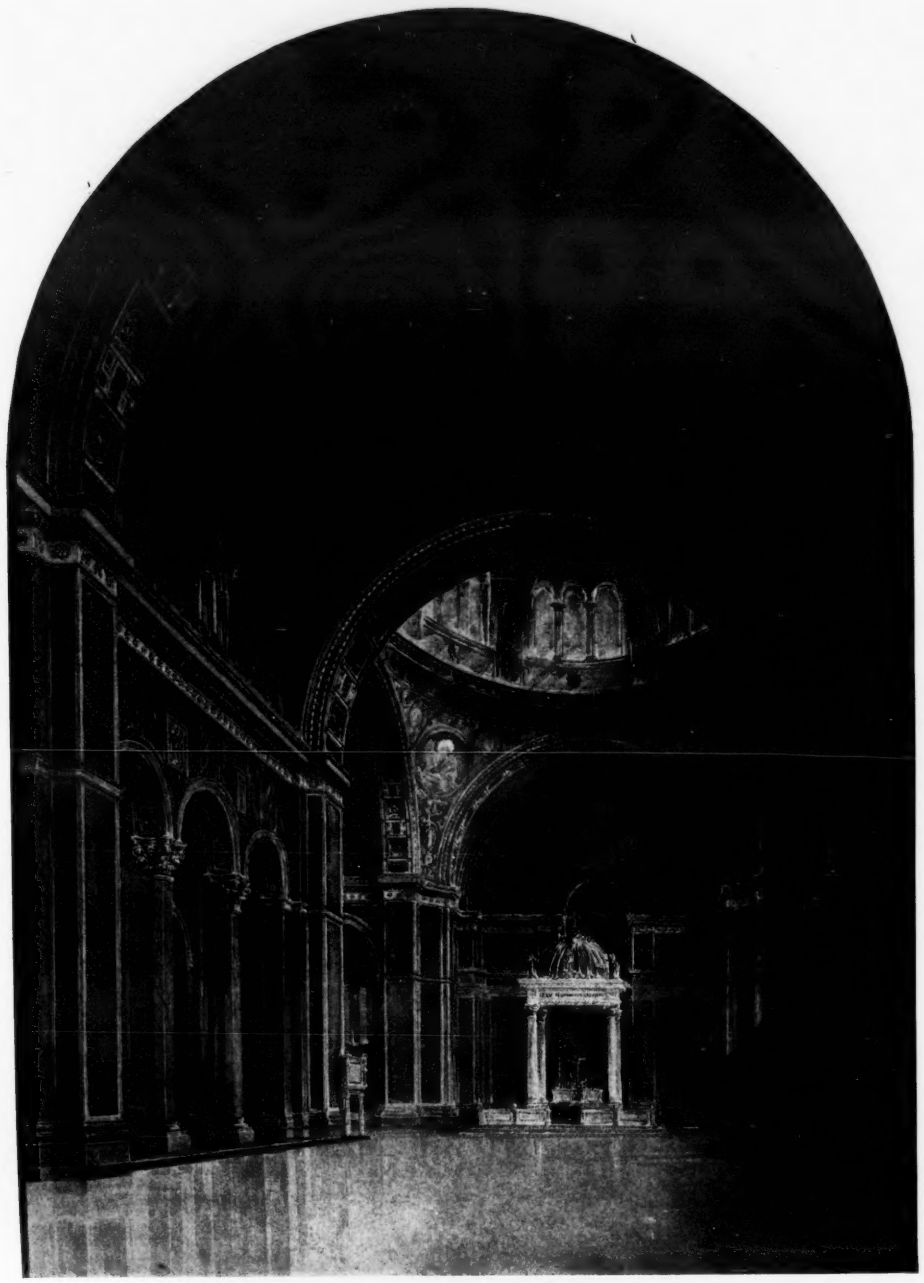
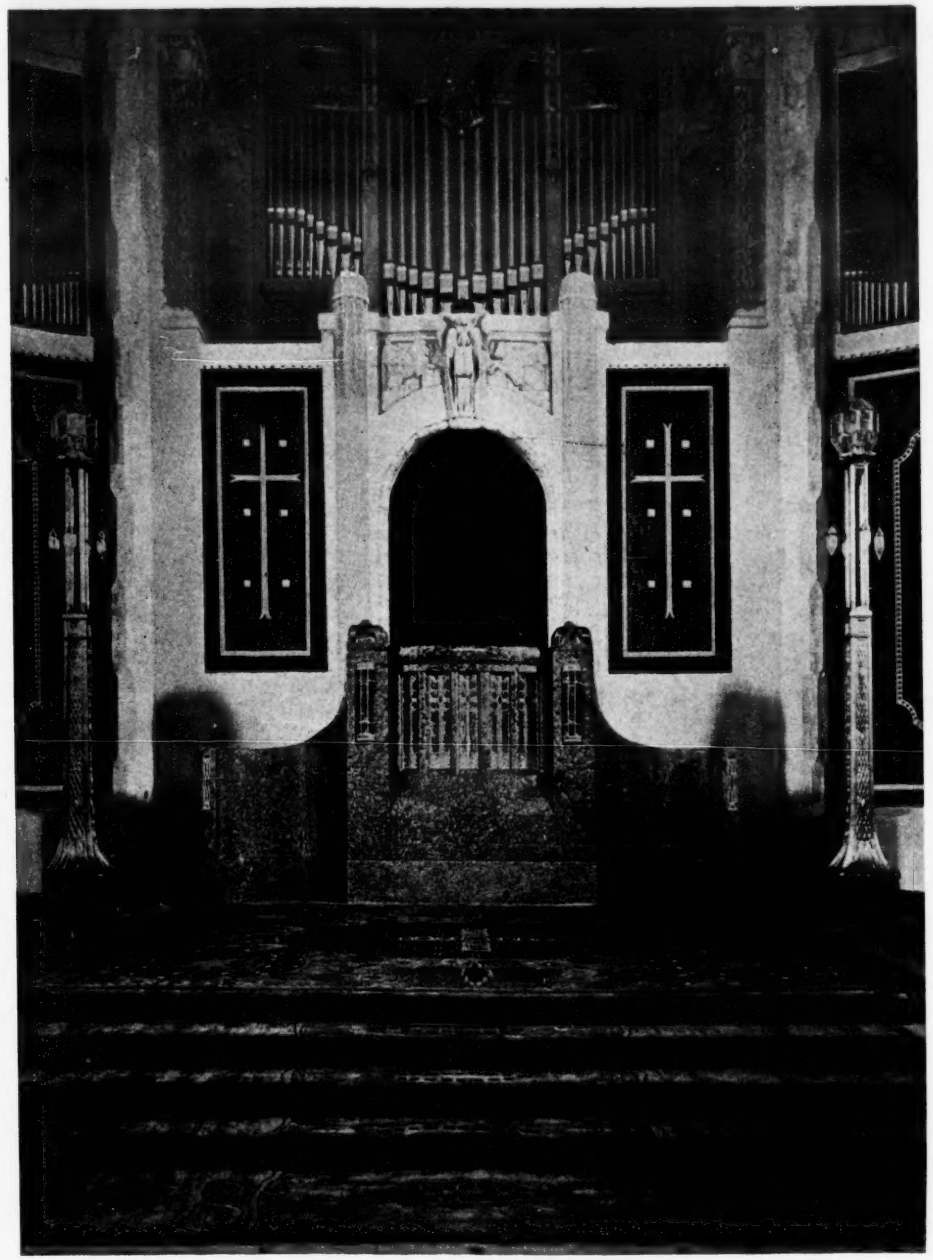


Interior, St. Mathew's Church, Washington, D.C. Heins & La Farge, Architects.



Interior of a Protestant Church, Germany. Prof. Fritz Schumacher, Architect, Dresden, Germany.

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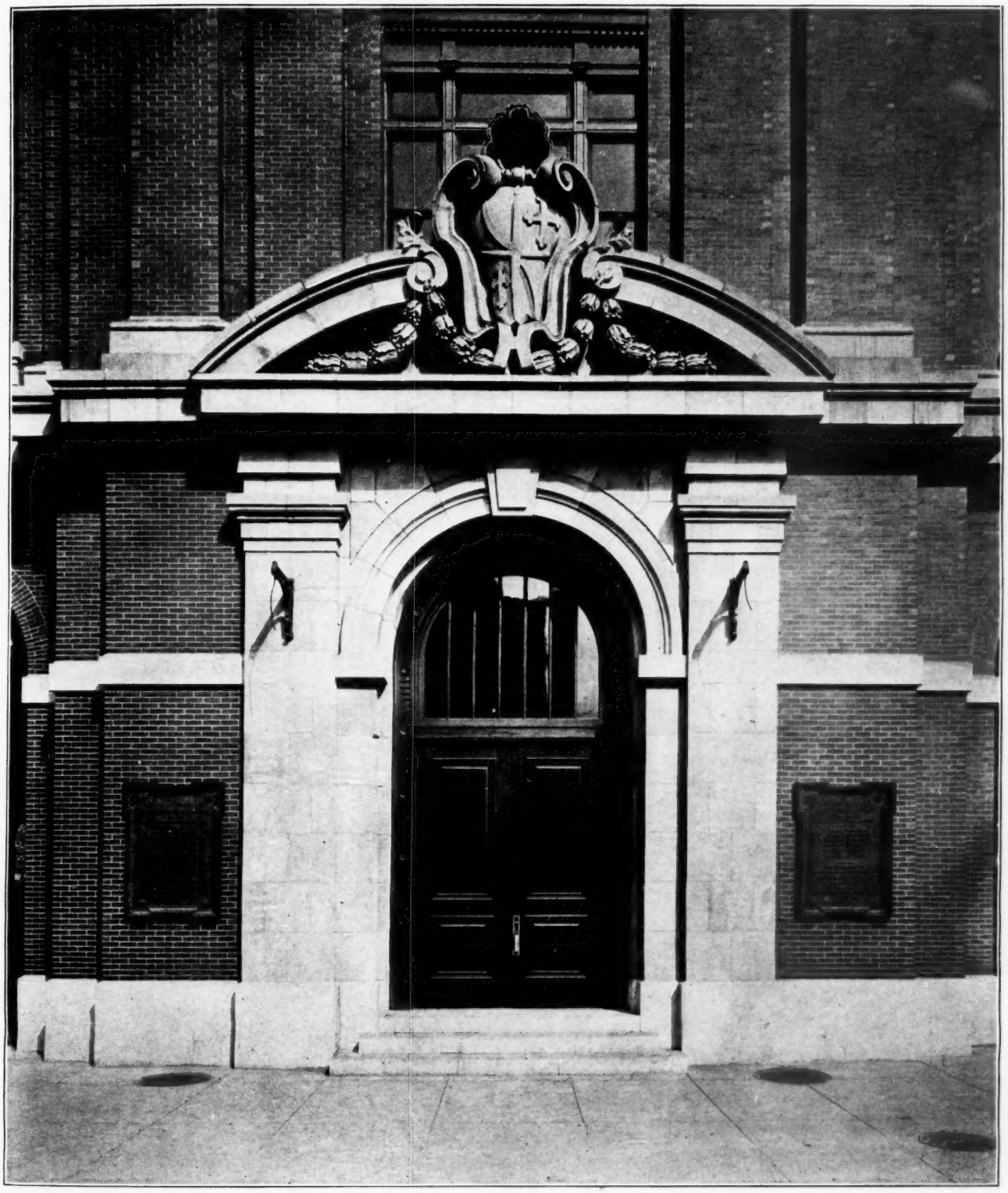

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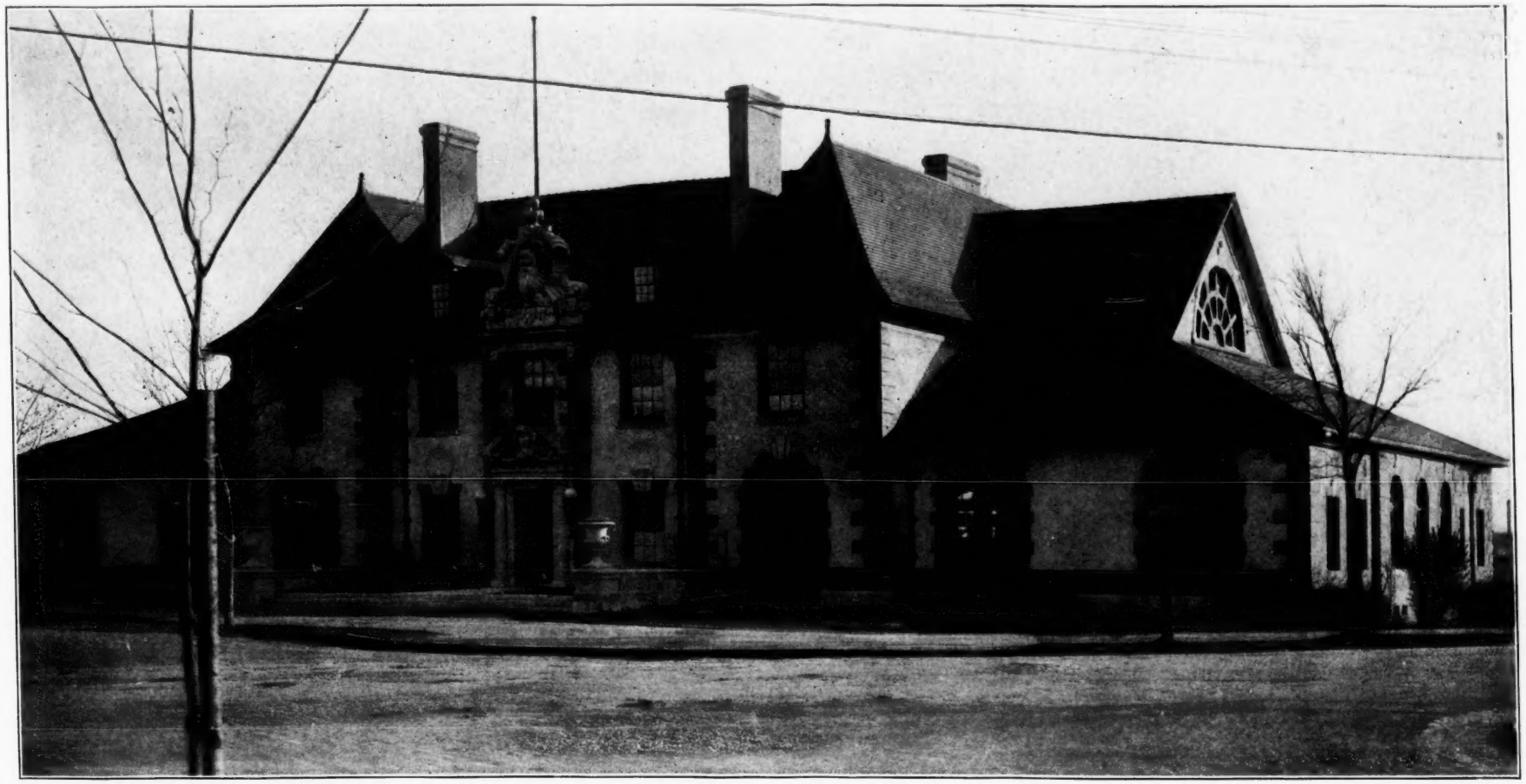

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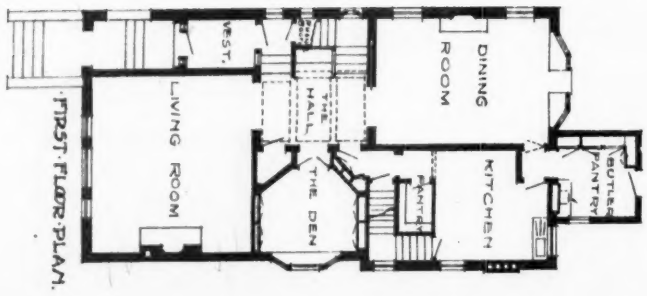

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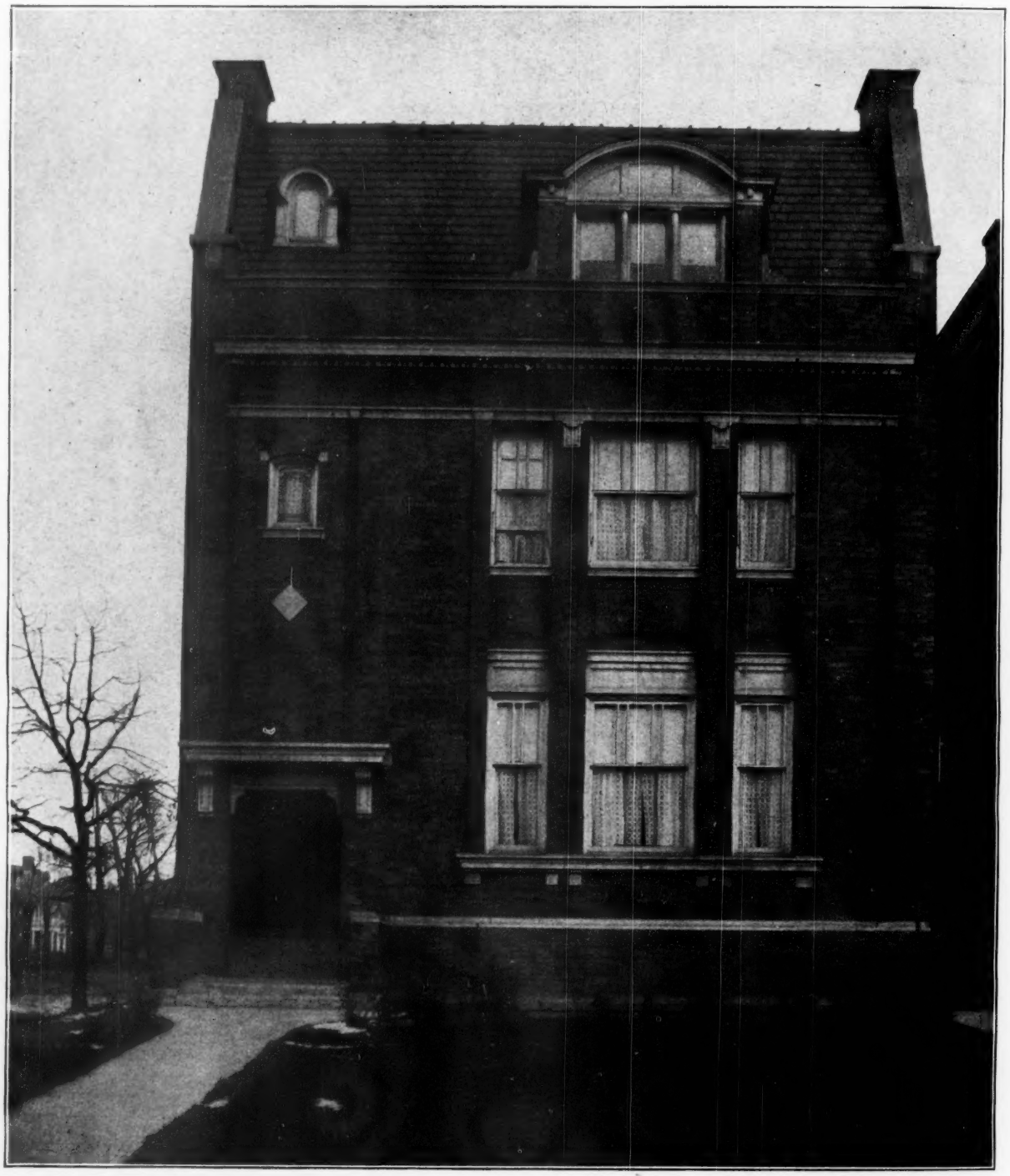

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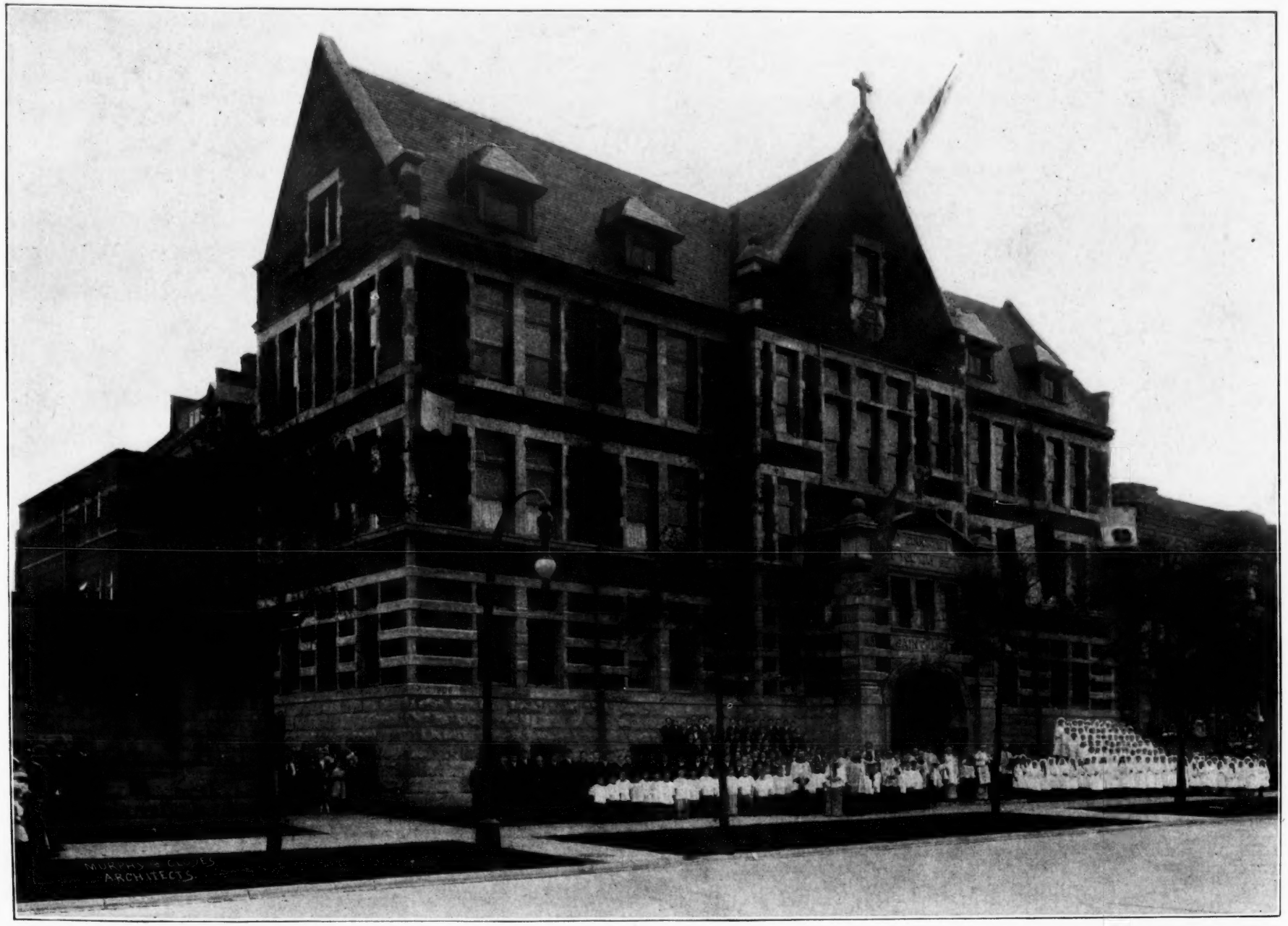

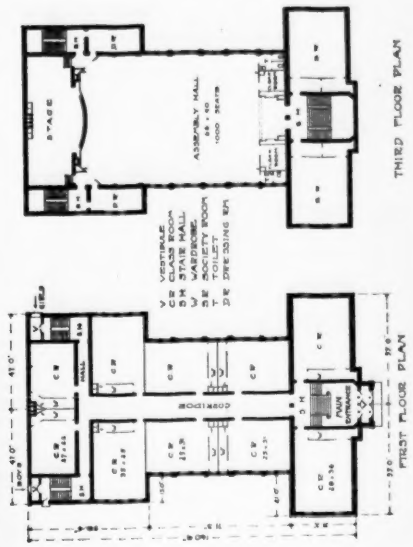

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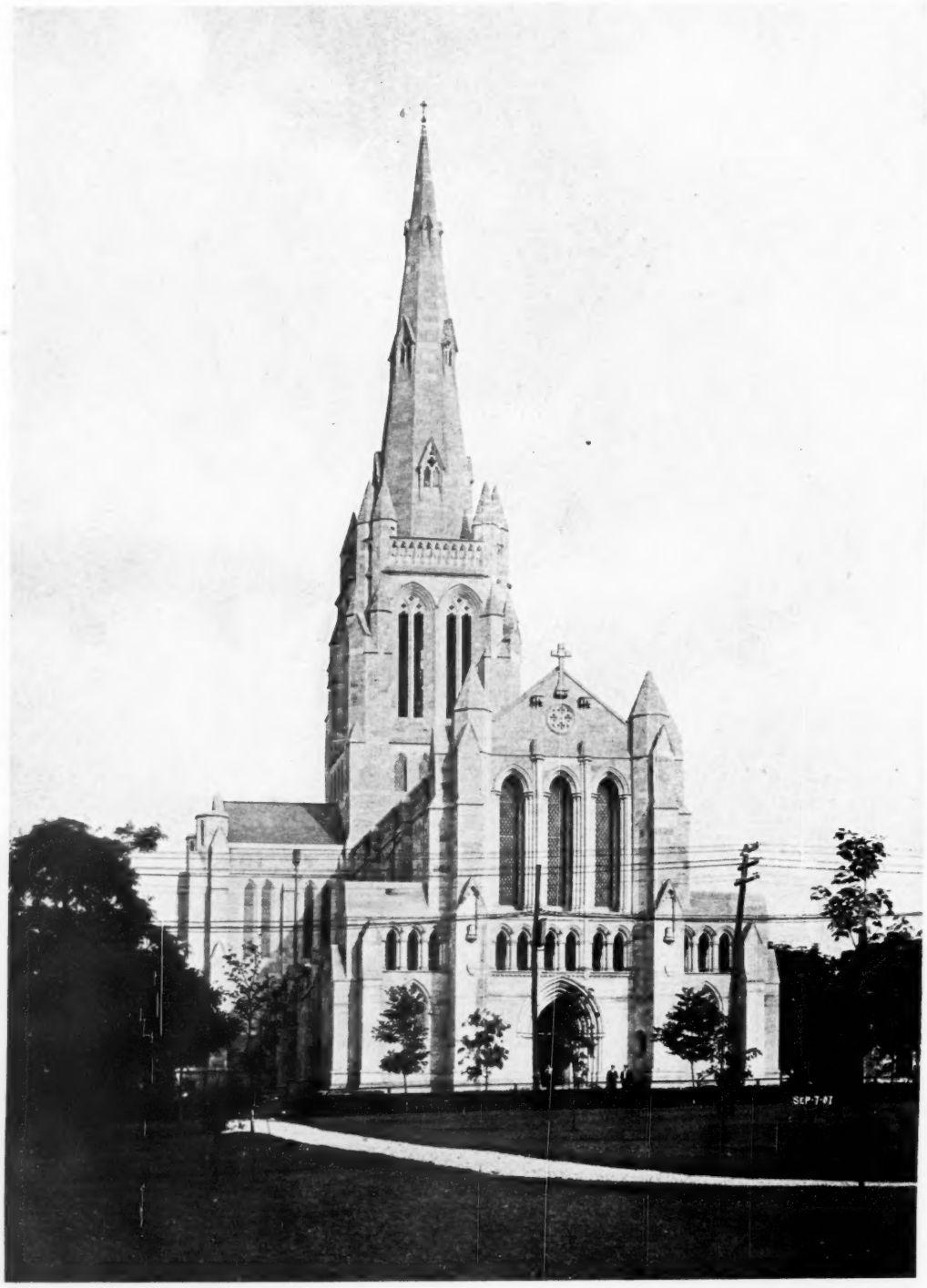

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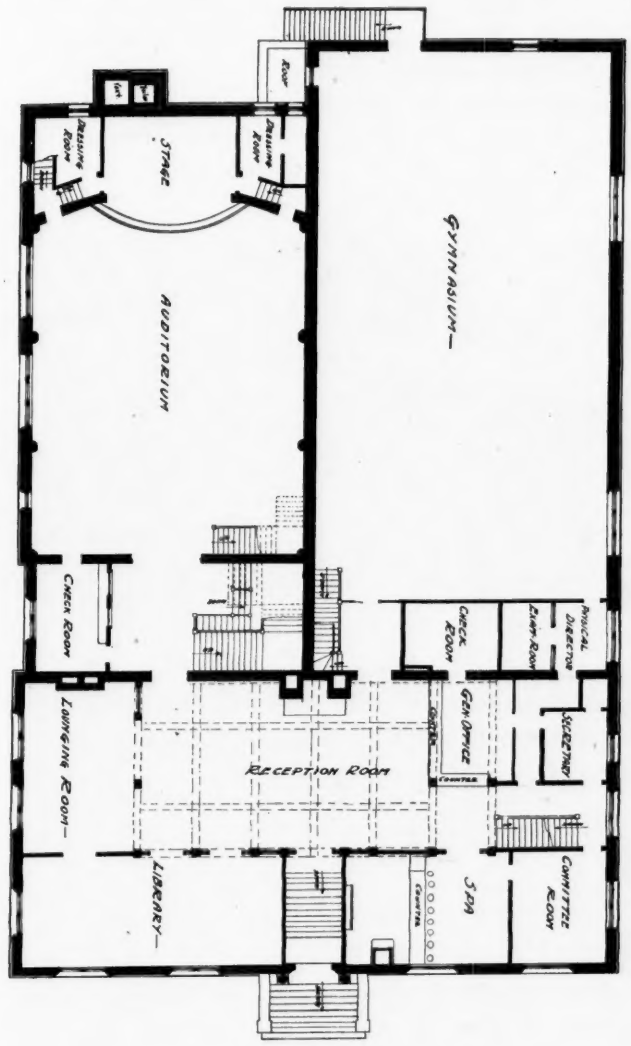

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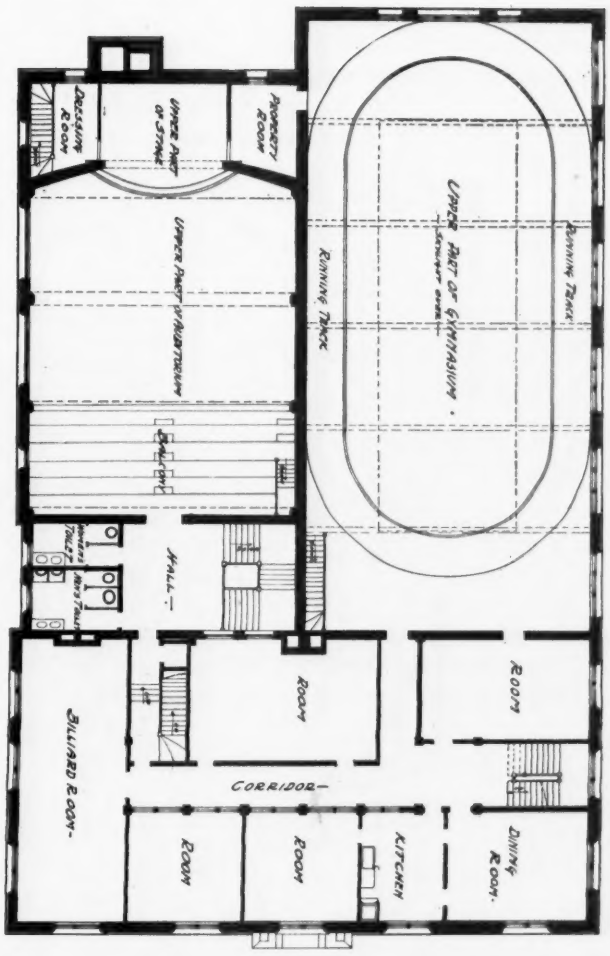

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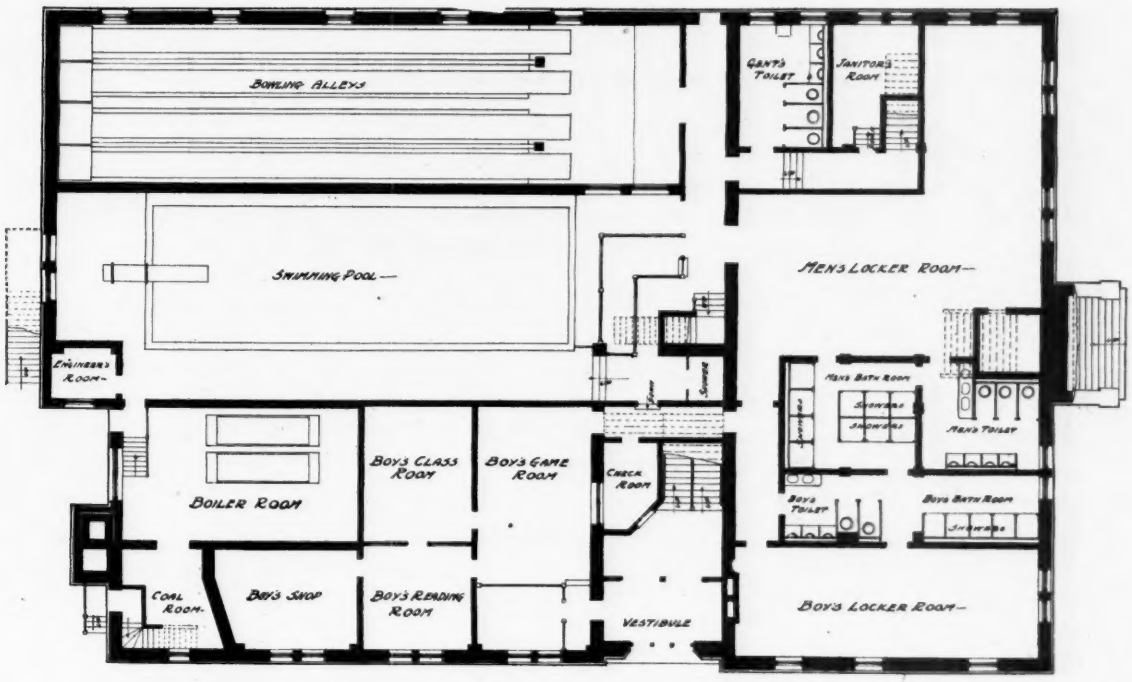

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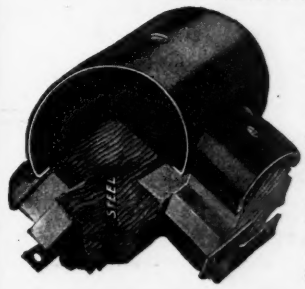

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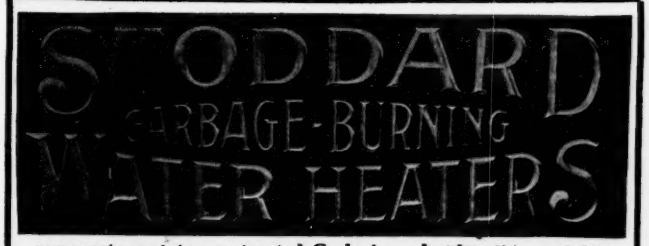

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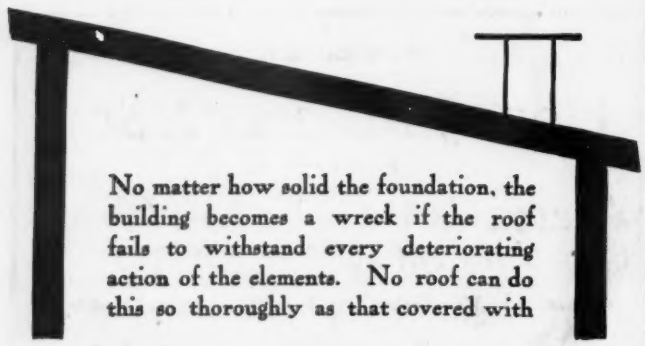

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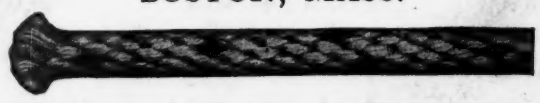

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